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No. 1
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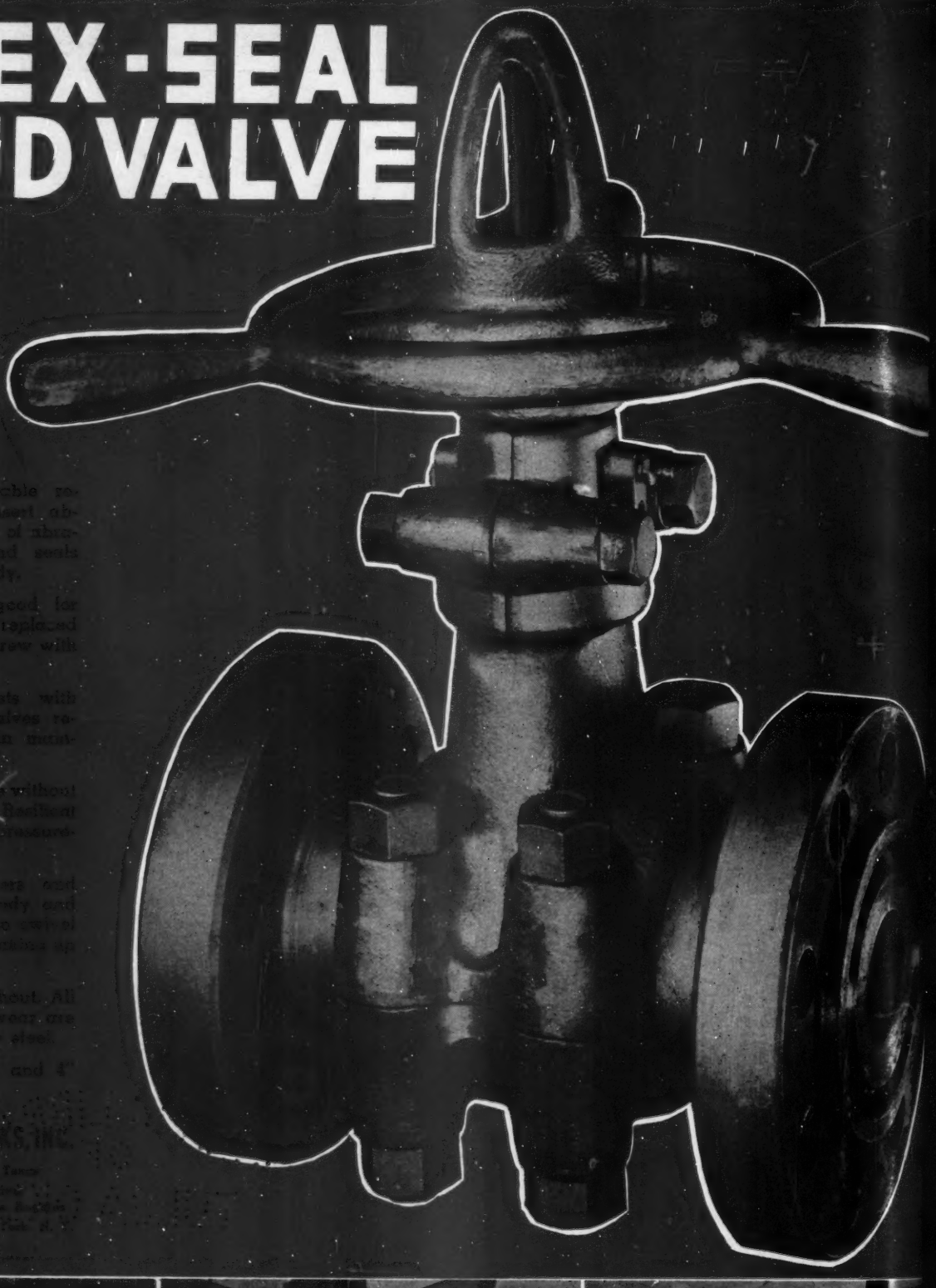

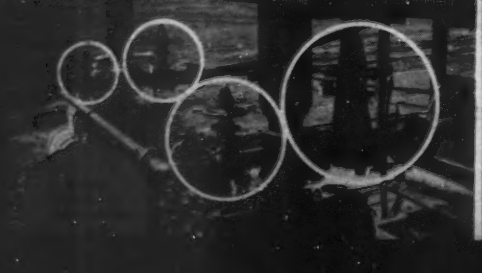

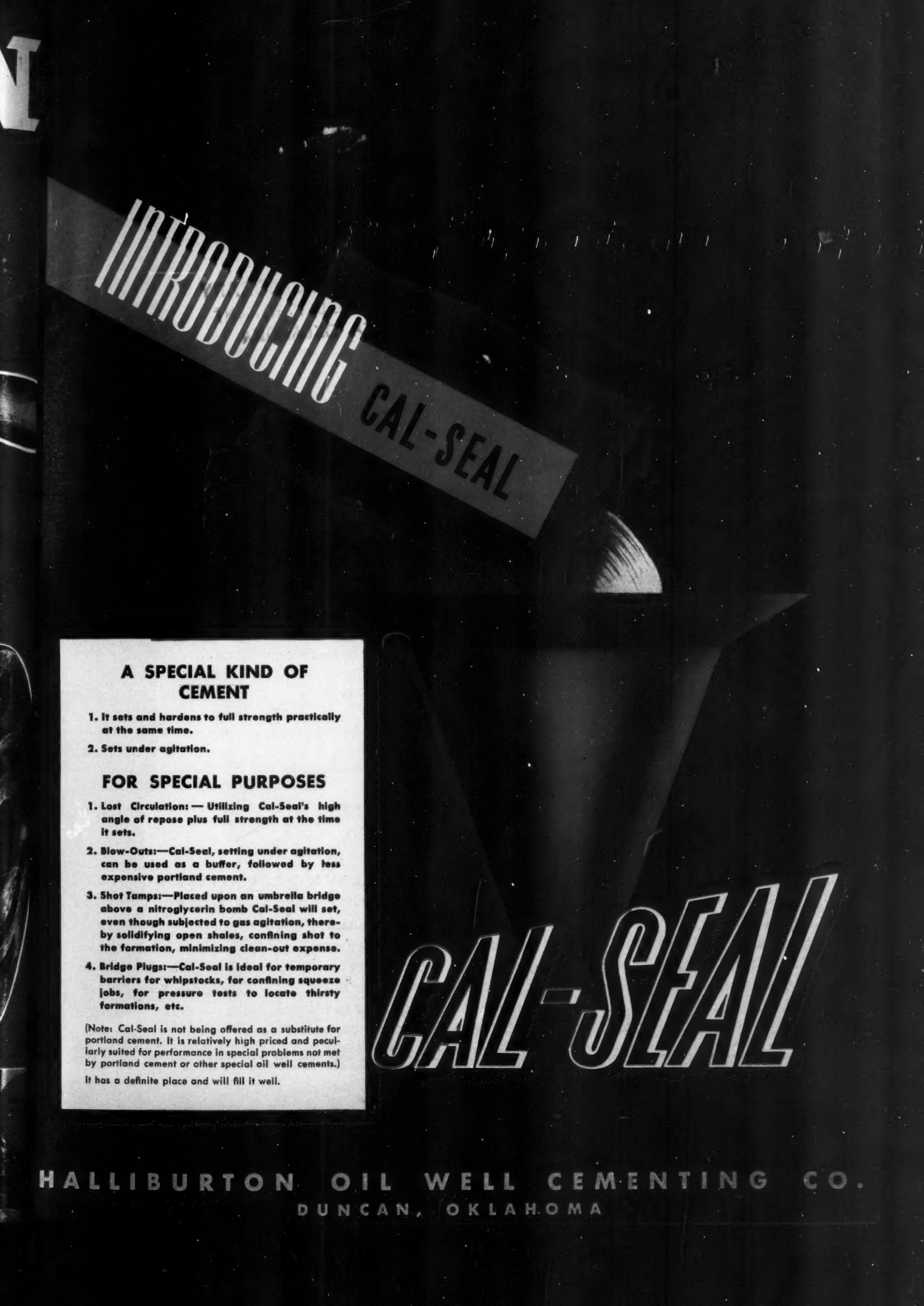

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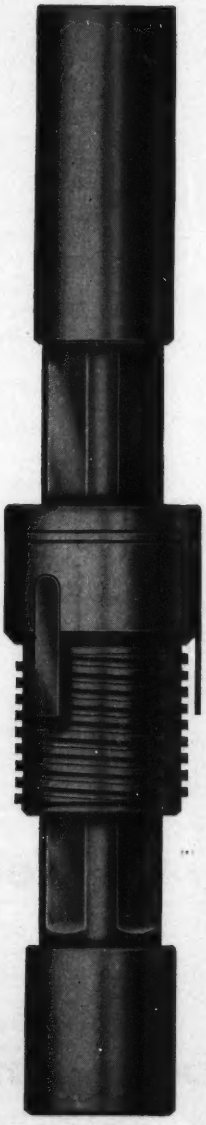

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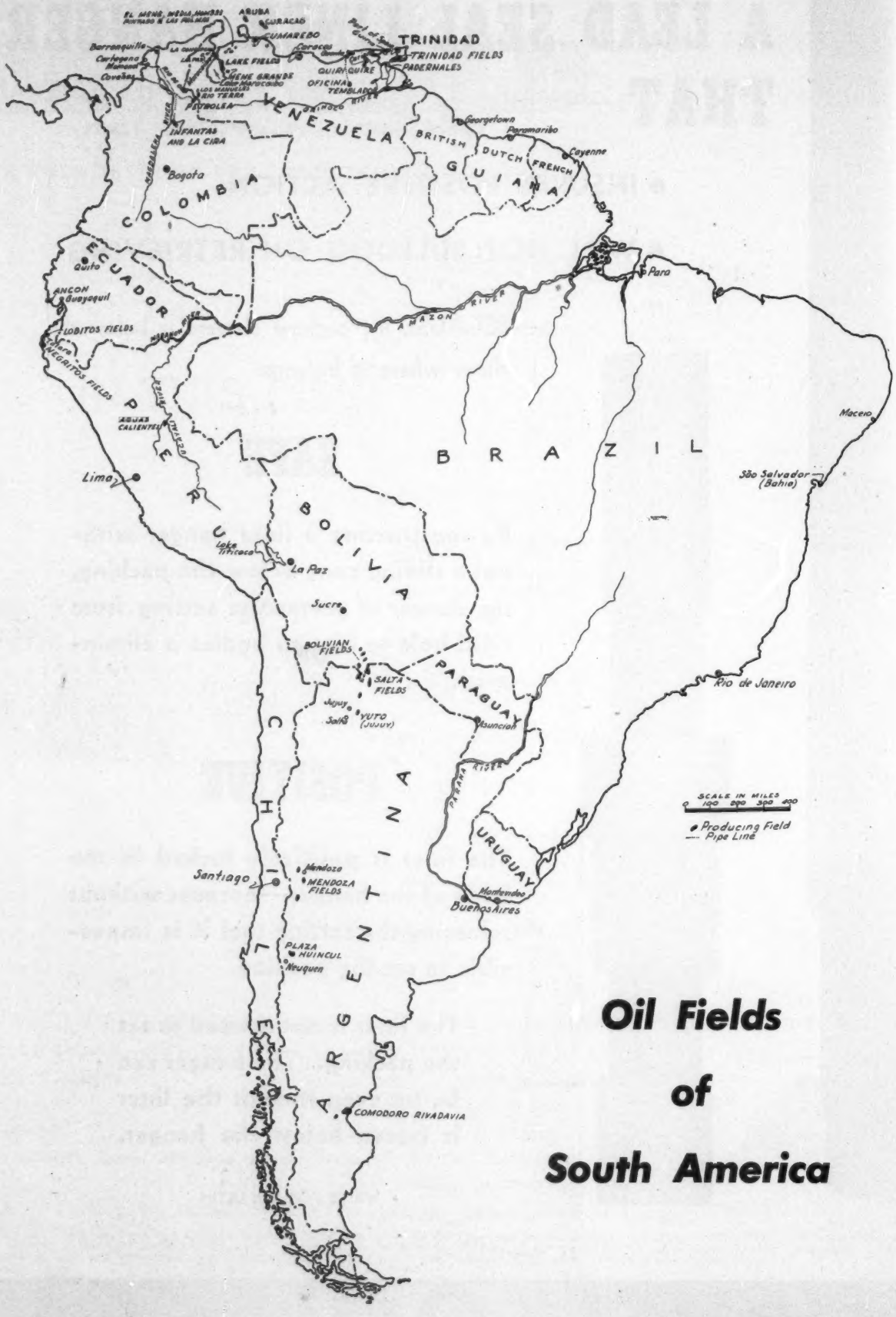


Oil Fields of South America

T050
V.33
Pt.1

Petroleum is Vanguard of South America's

Advance in World Commerce

By Wallace A. Sawdon
Petroleum Engineer, Los Angeles

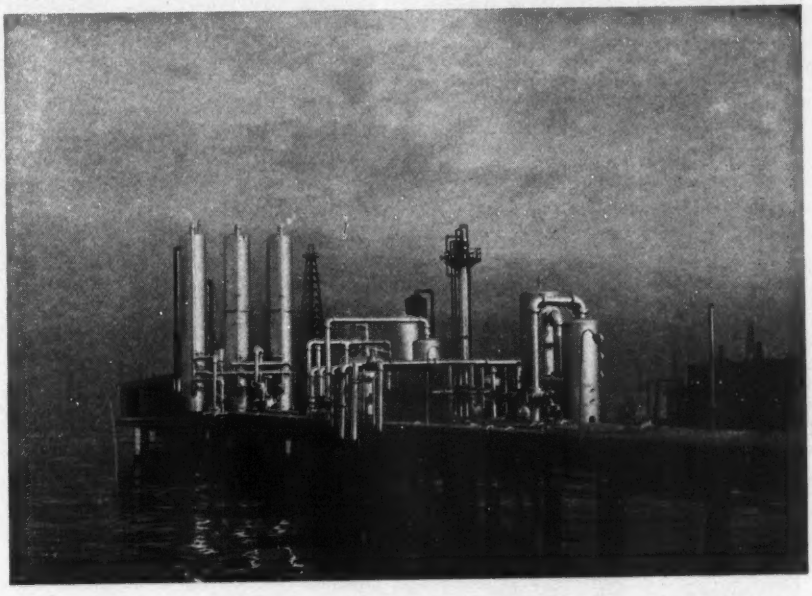
While the conflict in Europe naturally has an influence on the immediate development of South American petroleum resources, the sound, permanent growth of the oil industry in the individual countries is of greater importance. A strong petroleum industry will be a potent factor in the stabilized trade of the South American countries and while petroleum and its refined products do not greatly appeal to the United States as an important commodity, sales in other markets will always have an indirect influence on American exports to South America because of the increased ability to purchase which will be given to those countries exporting oil. This is worthy of due consideration right now when the permanent extension of South American trade is receiving so much attention.

The present production of petroleum in South America is an important factor in world crude oil supply. The total for all South American countries is over 13 per cent of total world production and crude oil production of Venezuela alone is exceeded only by the United States and Russia. War demands have already accelerated the normal increase in production from several of the countries and, while the annual production for 1939 will not reflect the war demands accurately, there is a possibility that production from Venezuela will pass that of Russia during 1940.

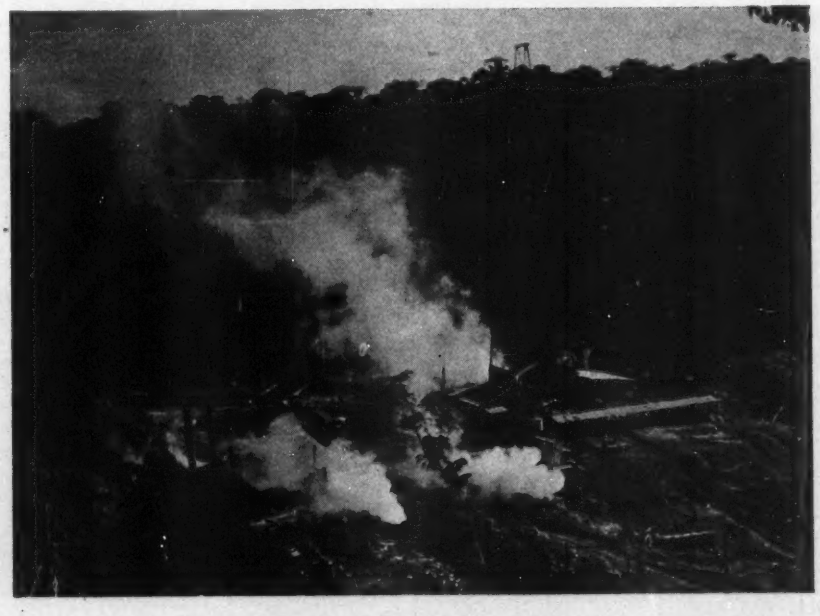
It is estimated that drilling activity will be increased fully 30 per cent because of the war in Europe. Most of this will be in the more rapid development of proven fields since greater immediate production is desired. This does not mean that exploratory work will be discontinued but it does mean that many test wells in wildcat territory will be suspended and crews and equipment put to work in the proven fields and in completing tests in areas where previous indications have made discoveries of new fields reasonably certain. Geological and geophysical work will probably be increased although actual testing of possible oil bearing structures may not follow the geological and geophysical findings as soon as under more normal world conditions.

Of the seven South American countries (including the island of Trinidad) now producing oil, the production of all but two is more than sufficient for the needs of the country producing it. Argentina, although exceeded in production by only Venezuela, Colombia and Trinidad, still has to import petroleum to meet its requirements. Bolivia's production is very small and inadequate for its needs. Brazil, the largest country of South America, has no present commercial production but is now doing exploratory work that may eventually result in discoveries.

The development of South America's petroleum resources is, in the main, a hazardous undertaking. Most of the territory where oil is discovered has been and, perhaps to an even greater extent will be, in areas covered by jungle, in places difficult of access and where mountains or jungle land present problems in the transportation of oil after it is produced. Geological work is usually difficult and sometimes practically impossible with some areas covered by



A Lago absorption plant built on reinforced concrete piles on Lake Maracaibo in the Lagunillas field, Venezuela.



Derrick in Columbian jungle.

sedimentary deposits; but geophysical prospecting, while also done under considerable difficulty and danger, has made possible and facilitated the location of structures to a considerable extent. Oil seeps have indicated the presence of many of the existing producing fields and oil seeps that are now known will probably be the means of locating new fields when the hazards of drilling are accepted.

The main producing fields are shown on the accompanying map and these present producing areas indicate the general trend of oil-bearing formations in South America. Starting at Trinidad, this trend swings along the northern part of Venezuela, down through Colombia, Ecuador, Peru, Bolivia and Argentina. In Colombia, the Barco Concession fields are in the Maracaibo Basin area while the El Centro fields are in the Magdalena Valley which lies west of the Eastern Cordillera of the Andes.

Wallace Sawdon, petroleum engineer and well known writer on engineering and technological activities in California and South American oil fields, will include articles on the following subjects in the series he starts in the California Oil World in this issue.

Deep Drilling Equipment:
Derricks, rigs, boilers, etc.

Well Completions:
Multiple zone completions.
Drilling in with oil.
Enlargement of hole through sand.
Gun perforating.

Cementing:
Cement and use of admixtures with cement.
Casing jobs.
Squeeze cementing.
Special shut-off methods.

Pumping Methods:
Rod pumping.
Rodless pumping.
Plunger lift operations.

Drilling Control:
Blow-out prevention.
High pressure hook-ups.
Pressure drilling.

Production Control:
Bottom hole pressures.
Fluid level measurements.
Back pressures.

Mud Control:
Use of admixtures.
Thixotropic qualities.
Mud caking.
Weight.
Colloidal properties.

Gravel Packing:
General considerations.
Packing with liner in place.
Use of pre-packed liners.

Directional Drilling and Controlled Vertical Drilling:
Survey instrument and whipstocks.
Straight hole instruments.
Effect of rotating speed.

Electricity in Oil Field Operations:
Drilling with electricity.
Producing with electricity.

Drill Pipe and Casing:
Efficiency of present pipe design.
Casing and drill pipe equipment.
Welded casing.

Electrical Logging:
General application.
Results secured in California.

Coring Methods:
Conventional coring methods.
Wire line coring.
Core analysis.

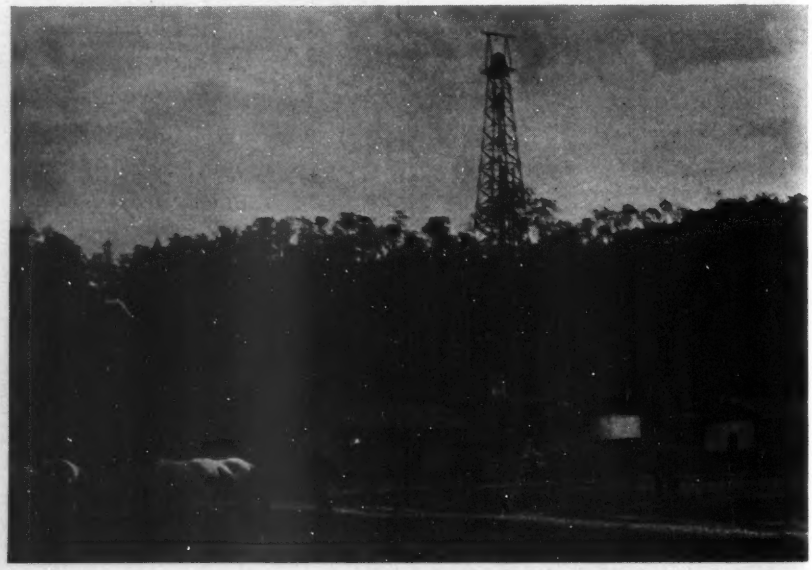
This tunnel through the hills saves many miles for highway and train travel between Talara and the Negrito operations, Peru.

In Ecuador all present production is on the coast west of the mountains although there are oil seeps east of the Andes in the upper reaches of the rivers tributary to the Amazon. No tests have yet been drilled near these seeps, probably because of their geographical location.

Up until this year production in Peru —the first oil producing country in South America—was confined to the northern coastal region; but with the discovery of the Aguas Calientes field commercial production is now known to exist at the headwaters of the Amazon River on the east side of the mountains. The small Bolivian production is from fields lying just north of Argentina's most northerly production and all oil in both Argentina and Bolivia comes from east of the Andes.

Brazil has had some production, enough to warrant the belief that there may be valuable reservoirs along the coast and in the south. According to geological data now available, that part of the continent extending south and east from the Orinoco River is covered with an ancient landshield of old crystalline rocks which are not oil bearing. This unproductive territory takes in the southern part of Venezuela with its western limits approximately along the eastern Bolivian border, swings southeasterly toward Rio de Janiero and covers most of the lower Amazon basin. This does not, however, leave Brazil devoid of oil possibilities. Along the Atlantic coast there are three rigs drilling on locations made by geological and geophysical determinations. Two of these are at São Salvador (Bahia) and the other just north of Maceio. Perhaps an even more promising area in Brazil is in the State of Acré along the Peruvian border. Then in the southern part of the country, adjacent to Paraguay and Uruguay, possibilities have been indicated by showings picked up in a number of wells drilled during past years.

Paraguay and Uruguay may or may not have possible oil production. The strip of territory between the Pacific



Rig in Argentina.

Coast and the Andes and extending south from present production around Talara, Peru and down through Chile may, together with the rest of Patagonia, have oil-bearing formations. The Guianas are to the northeast of the barren Brazilian landslide and at the present time geophysical work is being done in both British and Dutch Guiana, the most active being in British Guiana.

Development of South American Reserves

While American, British and Netherland companies have developed the greater part of the production of South America, the technical skill has been predominantly American. Trinidad, being a British colony, has naturally been developed chiefly by English operations. Operations up to the present time in Ecuador have also been mainly British; most of the technical staff are therefore English although several are Americans. In Venezuela, Colombia and Peru, however, American superintendents, engineers, drillers and other specialized employes predominate. Many Americans are employed in Argentina but the Y.P.F. (Yacimientos Petroliferos Fiscales) a petroleum unit of the government, has developed an efficient organization which is responsible for over half the production from that country.

With over 60 per cent of the total oil in the world being produced in the United States, experience has well qualified Americans in the science of producing and refining petroleum. The technical skill here developed is thus being utilized in all the oil-producing South American countries (with the possible exception of Bolivia) and men from California and other sections of the United States have been a big factor in the development of the petroleum industry of the various Latin-American countries.

Some of the South American countries have more or less nationalized their oil industry and there is an evident trend toward closed control of the industry by the governments of some of the other countries. Even in those countries that can be considered as having a totally nationalized oil industry, however, the technical skill of men from the United States is being utilized not only to take charge of or supervise operations but also to train men of the particular country for future conduct of operations.

American equipment has become an important factor in oil producing and refining operations all over the world. With the immense development of the industry in the United States, an experience has been gained in design and manufacture of equipment for all branches of the petroleum industry that has naturally made American equipment most efficient and economic.

Ready to run a formation tester in a well in Argentina. The use of formation testers for water shut off tests has now become standard practice in the Argentina fields.

Equipment of some classes has to some extent been brought into South America from Europe; but with the interruption of shipment caused by the war most of this equipment previously purchased from Europe will have to be supplied by American manufacturers. Since the performance of American-made equipment will probably prove its superiority there is every reason to believe that purchases of additional American equipment will continue for the future development of South American fields after the war is over. While much of the equipment will probably prove its economy in the long run, manufacturers must still consider the influence of cost which will be a factor when the European supply is again available and low-priced, although inferior, materials start flooding the market.

In regard to efficiency of operations in South American countries, American methods are reflected because of the Americans in the directing and supervising positions and the drillers and production men brought in from the United States. In many cases, moreover,

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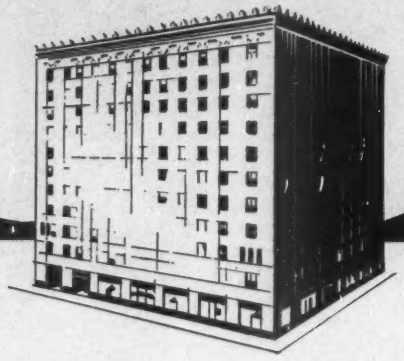
WEST OLYMPIC BOULEVARD • LOS ANGELES



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The jetty at Pointe-a-Pierre where the Trinidad Leaseholds, Ltd. refinery, the largest on the island, is located.

The headquarters for oil men and oil equipment representatives in Trinidad. The Queens Park Hotel at Port of Spain.

the control of production to obtain the greatest present and ultimate yield is perhaps more advanced than in most of the fields in the United States since nearly all the producing fields are wholly within a single concession operated by a single company. This unit operation of a pool lends itself to scientific and orderly development and allows production control without the difficulties attending multiple ownership of surface holdings.

In addition to the handicaps of climate and unfavorable topography, companies operating in most of the South American fields frequently have to engage in subsidiary industries that range from the operation of brick plants to the building and running of narrow gauge railways. Water supply is a problem that must be met and sometimes requires the construction of extensive treating plants with pipe lines to carry the water from a stream to the plant and from the plant to widely scattered operations.

The fields and headquarters are a long way from the source of supply for equipment and materials. Extensive stocks therefore have to be carried so that tools, machinery and supplies will be available when needed. A larger inventory than usual will probably be carried in 1940 with some of the companies planning on now ordering a six months' supply and at least one company preparing to order equipment for a full year.

Shops of all kinds have been built at the larger camps since repair to equipment must be done continuously and a company can't call up some local shop to get such work done as is the practice in the United States. Many of the industrial sections of the operating headquarters are complete with foundry as well as machine, electrical, automotive and other shops. Here again the experience and ingenuity of the worker are of great importance since emergency repair work of almost any character may be necessary on short notice. In fact, complete pieces of equipment sometimes have to be manufactured to meet an emergency which calls for equipment that is not on hand.

Foreign oil companies in South America have realized the necessity for providing sanitary and pleasant housing conditions for both foreign and national employes and have continued the expansion of their housing programs as the magnitude of their operations increased. In addition, they have recognized the value of education and have built schools for adults as well as children in order to aid in the progress of the nationals who work for the companies. Medical attention, usually with dispensaries, has been made available for nationals and foreigners at all the camps and complete hospitals, staffed with highly-trained personnel, are provided at locations that will best serve the various camps. The camps are provided with water and other utilities, particular attention being paid to sewerage systems and disposal of all waste.

Venezuela

During the year 1938 Venezuela produced 72 per cent of South America's total crude oil output and up to the end of that year nearly 67 per cent of all the oil taken from South American fields came from Venezuela. By the end of 1939 the annual production from this country alone will probably pass 200 billion barrels and, if war demands continue during next year, a considerably greater production can be expected. Practically all of this increase will come from the more rapid development of a few fields, particularly the Maracaibo Lake fields, where the drilling of the known productive areas has heretofore been carried on in an orderly manner that has, however, been well in advance of demands. During 1938 the Lake Fields accounted for nearly 73 per cent of Venezuela's total production and while the newer fields of Eastern Vene-

TABLE I
PRODUCTION IN VENEZUELA
Shipping Fields Only
From "Petroleum Development in Venesuela during 1938" by Joseph A. Holmes in A. I. M. E. "Petroleum Development and Technology, 1939."

Field	Total Oil Production in Barrels		Number of Wells		
			Completed		
	During 1938	To End of 1938	To End of 1938	During 1938	Producing At End of 1938
La Rosa	26,152,428	341,100,220	1,213	46	768
Tia Juana	43,699,980	70,259,862	430	171	383
Lagunillas	67,077,121	820,294,220	1,168	97	828
Bachaquero	986,794	1,058,901	33	26	17
Cumarebo	2,380,482	21,855,086	102	8	57
El Mene	452,629	21,046,390	210	...	80
Hombre Pintado	134,035	344,640	11	7	6
La Concepcion	961,017	20,208,132	102	...	65
La Paz	861,442	4,769,370	35	...	23
Las Palmas	62,827	246,652	7	...	1
Los Manueles	1,342,664	16,272,378	19	3	11
Media	78,378	2,505,190	20	...	8
Mene Grande	12,506,021	198,017,705	367	51	134
Oficina	174,977	194,994	4	2	1
Pedernales	1,914,548	3,477,291	13	4	7
Quiriquire	25,208,272	123,995,890	267	41	195
Rio Tarra	3,894,392	34,279,807	90	9	44
Temblador	2,295,143	2,358,793	51	39	29

zuela will continue to show increases, production from the Lake Fields during the next year or two will continue, if not exceed, the present percentage of the country's total production.

The fields of Venezuela from which oil is being shipped are shown on the accompanying map. All these fields have access to sea-going tankers either via rivers or through terminals on the coast. With the exception of the Lake Fields the crude has to be piped a considerable distance from the field to the terminal whether the terminal be on a river or on the sea coast. All the present shipping fields of Venezuela are operated by foreign oil companies and, except for Cumarebo, lie in either the Maracaibo Basin or in the Eastern Venezuela territory.

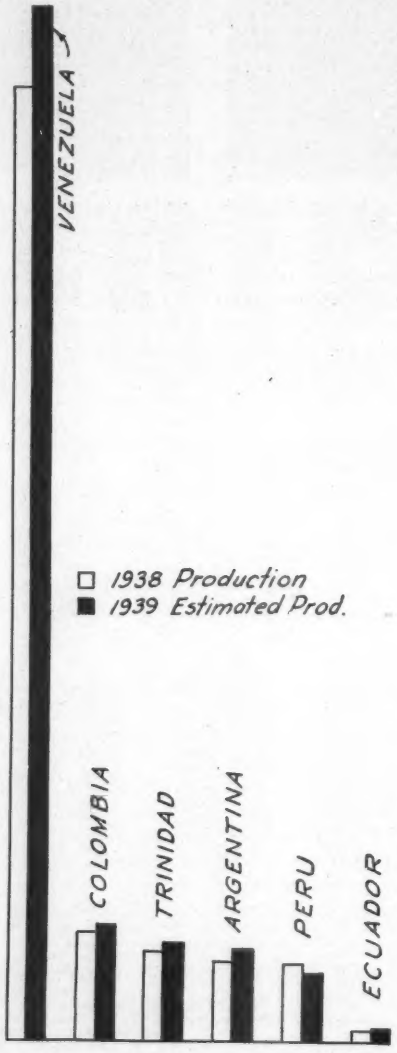
Maracaibo Lake Fields

The Lake Fields, also known as the Bolivar Coastal Fields, lie on the northeasterly shore of Lake Maracaibo and straddle the shore line for a distance of nearly 50 miles. The northern Lake Fields consist of La Rosa (including Ambrosio and Punta Benitez) and Tia Juana. The next field to the south is Lagunillas which is the oldest of the Lake Fields and has produced more oil than any other field in South America. Beyond this to the south lies the newest Lake Field, Bachaquero, which will probably be developed with great rapidity during the coming year.

The reservoirs of all the Lake Fields lie under both land and water. The portion of each field lying landward from the shore line is drilled and produced by Venezuelan Oil Concessions, Ltd., a Shell company. Offshore and parallel to the shore line are a series of concessions one kilometer in width which are operated by Mene Grande Oil Company, a Gulf subsidiary. All other operations on the Lake, that is from the shore line out except for the kilometer strips, are by the Lago Petroleum Corporation which is a subsidiary of the Standard Oil Company of New Jersey.

The drilling and production operations on the Lake are most interesting, particularly those of the Lago whose locations are from one to seven kilometers from the shore (nearly five miles) and in water that ranges from a few feet to approximately 60 feet in depth. The organization and methods developed in drilling and producing these water locations have established a technique that has been found extremely effective. While both the Lago and Mene Grande wells are located on the Lake, the drilling and production units of the Mene Grande are connected to shore with cat walks but those of Lago are isolated with each unit virtually a man-made island.

The Mene Grande derricks and rigs, together with pipe racks, are supported on wooden piles as are also the walks connecting the wells with boiler plants and shore. The boiler plants are located so as to take care of a number of wells to which cat walks are built when the wells are to be drilled. Equipment for drilling the wells is transported by barge when it is installed and removed. Boats are used extensively for



carrying small pieces of equipment and for transporting the personnel. The piles are recovered after they have served their purpose and are used over again.

The Lago operations are entirely different. Reinforced concrete piles are used for structures on the water which consist of wells, flow stations, compressor stations, gasoline plants and power transmission towers. Each unit, which in some cases combines a flow station, compressor station and gasoline plant, is designed as a permanent structure and none of the piles are removed. The piles are manufactured at a plant at La Salina and are carried by barge to the site where they are to be driven.

The pile foundation for a well accommodates only the derrick and the rig, including the engine and draw works. The boiler plant, mud pumps, mud ditch, vibrating screen, pipe rack and all equipment off the derrick floor are all on a drilling barge which is moored and anchored alongside the derrick foundation during the drilling of the well. Mud for drilling operations is stored on the drilling barge and the supply is maintained by mud barges equipped with tanks which carry the mixed mud from a mud plant on shore. Spent mud that is gas cut or may contain any oil is transported back to land so that the waters of the lake will not be contaminated. Cementing is done with a special barge which is towed out to the well when the cementing job is to be performed. Other equipment for specific purposes, such as that necessary for electrical logging, is designed to meet the requirements and transported to the location as needed.

Two general methods have been employed for casing through the lake water. One of these consists of drilling an 18 to 22 inch hole to a depth of approximately 100 feet or more, according to conditions. A conductor string is then set and cemented solidly from bottom to the lake bed. A 15 inch hole is drilled to 700 or 800 feet where a string of 11¾-inch is landed and cemented. This serves virtually as a surface string and the well is then continued to above the producing zone where the water string is set.

The other method which has been largely used in the Lagunillas and Tia Juana fields employs the use of two joints of 16-inch casing which encircle the top of an 11¾-in. surface string that is generally set at approximately 250 feet. The 16-inch joints and 11¾-in. casing are welded together at the bottom of the 16-inch section and both extend above the surface of the water. The 11¾-in. string is cemented from bottom to the place where it is welded to the 16-inch, the annular space between the two being filled with cement. Casing sizes are sometimes different from those given above for both methods in order to meet requirements of depth; there are also variations of the methods used.

Production comes from a series of sands in the Lake Fields. Completion depths have averaged 1000 and 2800 feet in the La Rosa field (including Ambrosio and Punta Benitez); 1900 and 2850 feet in Tia Juana; 2300 and 4400 in Lagunillas; and 3200 and 5200 feet in

Las Penas, across river from Cuidad Bolivar on the Orinoco River. Equipment for the development of the Oficina field was first brought in this way from Venezuela.

Bachaquero. Depths to different zones may become greater in some of the fields especially at Bachaquero.

All flowing wells are produced through chokes and the back pressure established for a well that will provide most efficient production is maintained. Considerable study is given to individual wells to secure production control. A great number of the wells are put on gas-lift when they cease to flow naturally but at the present time probably one-third of the wells are producing by natural flow. With the rapid development expected for Bachaquero during the coming year the number of flowing wells will probably be greatly increased.

Pumping wells are produced with individual pumping units driven by electric motors. All operations on the Lake except the drilling of the well is done by electricity. Transmission lines have been built over the entire extent of the lake operations and feeder lines take off from the main lines to pumping wells, flow stations, compressor stations and gasoline plants where the voltage is stepped down by transformers.

Production of the Lago wells on the Lake has necessitated the construction of complete plants on the water, some at considerable distances from shore. Flow stations have been located at points most advantageous for taking the oil and gas from a group of wells. These stations are built on reinforced concrete piles and generally support 500-barrel tanks for gauging and 1000-barrel tanks for storage. Here also are separators to separate the gas and oil, the oil going to storage and the gas to a compressor station. The number of tanks and separators depends on the number of wells being served.

Oil from the flow stations is pumped to shore by electric motor driven pumps through pipe lines laid on the lake bed. While most of the gas goes through pipe lines to compressor stations, some goes direct to an absorption plant when the pressure is satisfactory.

All the gas produced on the Lake is utilized and all but very little is treated in absorption plants built on the lake. The residue gas not used for fuel or other operations is applied to gas-lift or repressuring. Gas into the compressor station is compressed to the proper pressure for the absorption plant to which it is then piped. After stripping, some of the residue goes into the fuel system and some is piped back to the compressor station where it is now compressed by two stages to the pressure required for gas-lift or repressuring operations.

Pipe is laid on the Lake with a specially constructed barge. The pipe is made up into 80-foot lengths and coated on the shore. The barge will accommodate two of these lengths at once and when they have been welded together the barge is pulled forward, allowing a length of pipe to enter the water. Another length is then placed on the barge and the procedure repeated. All lines are welded. Gas lines larger than 8-inch will float so no lines of larger diameter are used except between gasoline plant and compressor station where the two are close enough together to be connected by trestles to carry the line. Usually a 6-inch and 8-inch line carry fuel gas to shore where it is picked up by a 10-inch line.

The lake operations naturally need land facilities such as the big power plant furnishing electric current to the various operating units on the Lake. This plant is located at Punta Gorda situated in the La Rosa field. Several industrial plants not necessary for land operations have to be maintained to provide for drilling and production on the Lake. Among these are the pile-casting plant, dry dock for marine equipment and small boat repair docks. Tank farms for the storage of oil from the lake wells as well as those for the land wells are located on shore along the producing areas.

TO BE CONTINUED

IN THE

SECOND ISSUE

JANUARY

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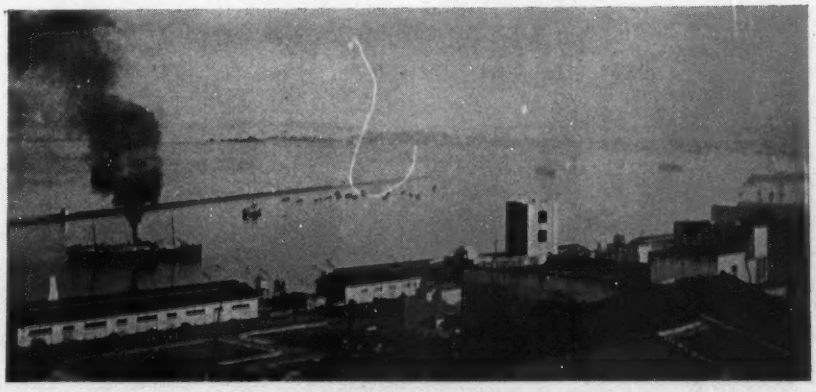


Two wells are now drilling near Bahia and later a test will be put down on the island.

PRODUCTION :-: DEVELOPMENT

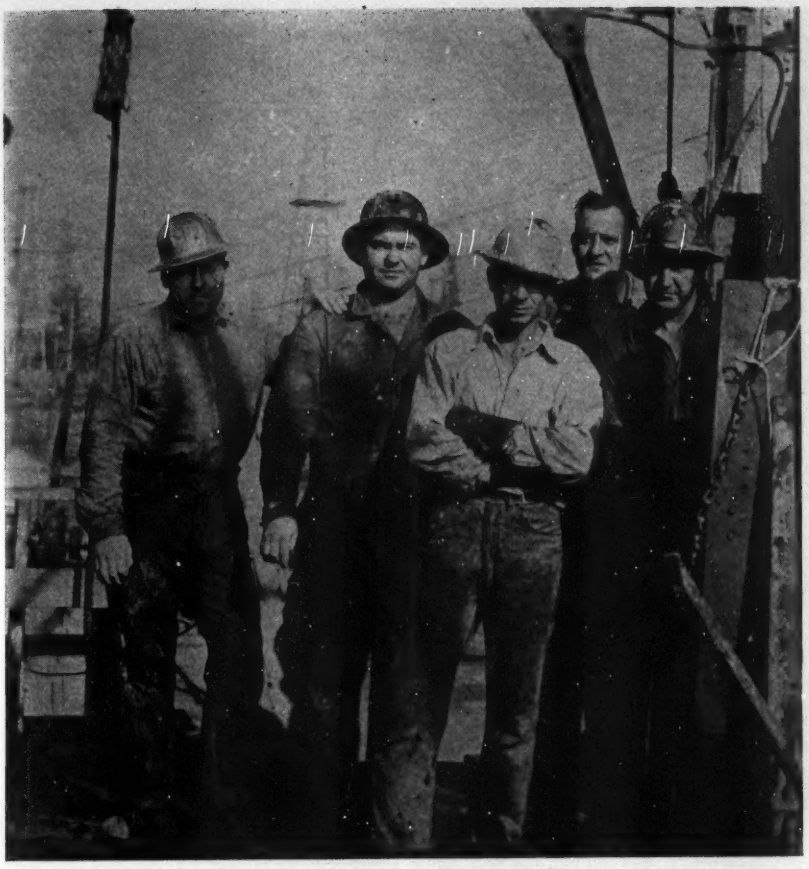
(Figures of Production and Stocks are in barrels of 42 Gals.)

Group No. 1	Total Production November	—DAILY AVERAGE— Nov., 1939	Oct., 1939	Nov., 1938
Arvin	76,280	2,543	2,056	.....
Belridge—North	354,565	11,819	11,864	12,498
Belridge—South	34,195	1,140	1,163	1,135
Canal	168,429	5,614	5,854	3,545
Canfield Ranch	2,234	75	86	58
Coalinga	580,991	19,366	20,805	8,124
Cole's Levee	53,370	1,789	1,631	160
Edison	69,280	2,309	2,244	2,596
Elk Hills	340,846	11,351	10,155	10,224
Fruitvale	182,167	6,072	6,115	7,784
Greeley	83,584	2,786	2,611	2,419
Kern River	350,847	11,695	11,462	11,280
Kettleman Middle Dome	.....	.....	2	38
Kettleman North Dome	1,531,690	51,056	52,042	61,263
Lost Hills	102,606	3,420	3,572	3,255
McKittrick	107,200	3,573	3,629	3,537
Midway-Sunset	1,484,149	49,472	48,653	55,507
Mountain View	220,760	7,359	7,657	9,298
Mount Poso	314,740	10,491	10,866	14,145
Paloma	5,737	191	221	.....
Rio Bravo	237,545	7,918	7,844	9,704
Round Mountain	250,490	8,350	8,040	12,816
Strand	31,993	1,067	727	.....
Ten Section	263,920	8,797	8,561	8,797
Tupman	20,983	699	596	56
Wasco	38,121	1,271	1,335	470
Wheeler Ridge	9,888	330	332	312
Group No. 2				
Capitan	64,760	2,159	2,230	2,680
Elwood	119,100	3,970	4,122	5,002
Rincon	112,091	3,738	3,737	4,141
San Miguelito	86,376	2,876	2,801	2,585
Santa Barbara	10,245	342	299	394
Santa Maria	486,678	16,223	17,718	19,253
Summerland	1,025	34	24	32
Ventura Avenue	1,093,674	36,456	36,392	33,943
Ventura-Newhall	212,130	7,071	7,095	5,544
Watsonville	900	30	30	30
Group No. 3				
Brea-Olinda	170,898	5,697	5,790	5,660
Coyote—East	87,352	2,912	2,586	3,064
Coyote—West	232,124	7,737	10,038	7,972
Domingues	564,336	18,811	18,306	27,234
El Segundo	86,756	2,892	2,901	5,624
Huntington Beach	814,690	27,156	26,802	31,102
Inglewood	392 534	13,085	13,008	13,400
Lawndale	1,403	47	48	69
Long Beach	1,330,844	44,361	45,140	53,600
Los Angeles-Salt Lake	16,494	550	527	515
Montebello	822,321	27,411	26,047	15,572
Playa Del Rey	135,463	4,515	4,580	5,656
Potrero	41,368	1,379	1,221	634
Richfield	255,177	8,506	8,670	8,730
Rosecrans	314,694	10,490	10,631	15,703
Santa Fe Springs	797,427	26,581	26,626	30,616
Seal Beach	210,280	7,009	7,144	8,042
Torrance	415,118	13,837	14,219	19,303
Whittier	27,928	931	976	935
Wilmington	2,561,487	85,383	86,170	96,444
Total	18,382,277	612,742	616,091	662,800
October	19,098,804	616,091		
Decrease	716,527	3,349		

SUMMARY OF CALIFORNIA OILFIELD OPERATIONS FOR NOVEMBER, 1939—STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Nov. 30, 1939	Oct. 31, 1939	November Changes	Dec. 31, 1938 (Reclassified)
1. Gasoline-Bearing Crude	35,011,252	35,413,929	− 402,677	36,225,312
2. Non-Gasoline-Bearing Crude	13,654,537	14,065,553	− 411,016	16,282,177
3. Unblended Nat. Gas	1,652,947	1,889,973	− 237,026	2,699,455
4. Gasoline (not including distributing and service stations)	15,011,338	14,338,180	+ 673,158	13,259,369
5. Naphtha Distillates	1,283,727[1]	1,263,943[1]	+ 19,784	1,566,349[1]
6. Gas Oil and Diesel Oil	9,880,120	9,974,159	− 94,039	10,539,937
7. Fuel Oil Residuum	67,437,999	68,655,549	−1,217,550	70,957,881
8. All Other Stocks	7,944,532[2]	7,659,247[2]	+ 285,285	6,153,809[2]
TOTAL	151,876,452	153,260,533	−1,384,081	157,684,289
[1]Estimated amount of unfinished gasoline contained in item 5	1,054,145	1,018,615		1,350,379
[2]Coke included in item 8	859,288	730,298		92,066

Group No. 1	New Rigs Up	Active Drilling	Producers Completed	Daily Initial Output	Active Producing	Abandoned Wells Drillers	Abandoned Wells Producers
Arvin	1	2	....	....	11	....	....
Belridge—North	1	2	1	100	75	....	....
Belridge—South	..	....	....	....	83	....	....
Canal	1	2	2	2,024	30	....	....
Canfield Ranch	..	....	....	....	1	....	....
Coalinga	7	19	6	10,478	888	3	1
Cole's Levee	1	9	2	1,655	10	....	....
Edison	..	2	....	....	88	....	....
Elk Hills	..	....	....	....	169	....	....
Fruitvale	..	1	3	372	174	....	1
Greeley	4	5	1	1,992	22	....	1
Kern River	2	5	4	22	1,498	2	....
Kettleman Middle Dome	..	....	....	....	....	....	....
Kettleman North Dome	7	17	3	7,781	237	....	....
Lost Hills	..	....	....	....	287	....	....
McKittrick	1	1	....	....	200	....	....
Midway-Sunset	1	6	2	115	2,555	3	3
Mountain View	..	1	1	100	186	....	....
Mount Poso	1	....	2	645	272	1	....
Paloma	..	2	....	....	1	....	....
Rio Bravo	1	3	3	6,865	37	....	....
Round Mountain	..	....	....	....	205	....	1
Strand	1	2	....	....	5	....	....
Ten Section	..	2	1	3,032	29	....	....
Tupman	1	2	1	1,600	4	....	....
Wasco	..	1	....	....	7	....	....
Wheeler Ridge	..	....	....	....	33	....	....
Group No. 2							
Capitan	..	....	....	....	45	....	....
Elwood	..	....	....	....	81	....	....
Rincon	1	....	1	302	56	....	....
San Miguelito	..	2	1	729	21	....	....
Santa Barbara	..	....	....	....	27	....	....
Santa Maria	1	2	2	6,970	271	....	....
Summerland	..	....	....	....	17	....	....
Ventura Avenue	3	13	6	12,029	262	....	....
Ventura-Newhall	4	7	....	....	551	1	....
Watsonville	..	....	....	....	7	....	....
Group No. 3							
Brea-Olinda	..	....	....	....	357	....	2
Coyote—East	1	1	1	564	78	....	....
Coyote—West	..	....	....	....	60	....	....
Domingues	1	4	....	....	162	....	....
El Segundo	..	....	....	....	47	....	....
Huntington Beach	..	2	3	704	533	....	3
Inglewood	..	....	....	....	221	....	....
Lawndale	..	....	....	....	5	....	....
Long Beach	3	8	....	....	1,203	....	2
Los Angeles-Salt Lake	..	....	....	....	111	....	....
Montebello	10	32	21	9,218	322	....	....
Playa Del Rey	..	....	....	....	162	....	3
Potrero	..	1	....	....	16	....	....
richfield	..	1	....	....	298	....	....
Rosecrans	5	4	1	198	137	..	....
Santa Fe Springs	..	....	....	....	574	..	2
Seal Beach	2	1	....	....	115	....	....
Torrance	..	2	1	88	705	....	4
Whittier	..	....	....	....	146	....	....
Wilmington	16	15	14	5,460	744	....	....
Miscellaneous Drilling	7	25	....	....	....	6	....
Group No. 4—Gas Fields							
Buena Vista Lake	..	....	....	....	3	....	....
Buttonwillow	..	....	....	....	23	..	....
Chowchilla	..	....	....	....	....	..	....
Delano	1	....	1	Gas	6	....	....
Dudley Ridge	..	....	....	....	....	..	....
Fairfield Knolls	..	....	....	....	....	..	....
Goleta	..	1	....	....	....	..	....
Marysville Buttes	..	1	....	....	3	..	....
McDonald Island	..	....	....	....	5	....	....
Rio Vista	..	....	1	Gas	22	..	....
Semi-Tropic	..	....	....	....	2	....	....
Tracy	..	....	....	....	5	....	....
November	85	206	85	73,043	14,510	16	23
October	97	216	67	56,581	14,491	10	27
Increase (*Decrease)	12*	10*	18	16,462	19	6	4*



Putting down Southern California Petroleum Corp.'s Rowena No. 1, nearest offset to the best producer in Rosecrans addition, Slabaugh No. 1, are, left to right, W. A. McSweeney, H. E. Smith, L. J. Menichini, W. R. Nesbitt, and Cliff Graham.

Going down deeper (when they get the liner out) are E. H. Annis, J. D. Baity, A. C. Newhall, and F. D. Woods, left to right, on Abel No. 3 of Kellogg Construction, in Rosecrans addition.

Views and News Around the Derricks

Kelly Completing Rosecrans Well

Thomas Kelly & Sons, Inc. is completing its first Rosecrans well after cementing 6⅝ in. casing at 7485 ft. and bottoming the hole at 7695 ft. A southerly offset to Southern California Petroleum Corp.'s big Slabaugh No. 1, the Kelly project is expected to be a good producer.

Barnsdall Oil Co. and Wilshire Oil Co. are having their own troubles with Santa Fe Corp. No. 1, which after being recemented, is being perforated and tested to determine the best productive zones. Seven inch casing is cemented on bottom at 8790 ft.

Dr. Averills No. 3 was again swabbed wet on production test and an attempt is being made to pull the liner. Depth is 8400 ft. with pipe cemented at 8080 ft.

Royalty Service Corp. is drilling its Riverside Cement No. 1 at 2000 ft. and Southern California Petroleum Corp. is below 6500 ft. in its second well, Rowena No. 1.

Charles Corwin, of the Division of Oil & Gas, was shot in the act of gathering information at South Basin Oil Co.'s No. 93, deep test of the Huntington Beach field.

Directly in line with Riverside No. 1, as one of the most southerly outpost tries in the Rosecrans addition, is Apex Petroleum Co.'s Hatfield No. 1, headed for the rich new zone, it is hoped, by, left to right, Charles King, C. Kinne, F. R. Schwarz and N. W. Lewis.

Deep zone prospecting has come to Huntington Beach, and here is the table that brought luck to Dormax No. 1, second successful deep test at Signal Hill. Oilwell's 27½-in. rotary table is showing how smoothly and quietly heavy equipment can operate as it turns the pipe in South Basin Oil Co.'s No. 93, Huntington Beach deep test.

Looking over Rowena No. 1, near their own Slabaugh No. 1, which came in with an initial potential of 1000 bbls. of 32° gravity oil to heighten interest in the new Rosecrans addition, are, left to right, G. S. Heflin, assistant secretary, and T. F. Woodward, secretary-treasurer, of Southern California Petroleum Corp.

Inglewood Fault Wildcats Announced

Announced for early drilling are two of the most important wildcats to be located along the Inglewood fault line in many years. Each culminates an intensive leasing campaign and each is considered a far better bet than the average exploratory well. Each project is motivated by an independent operator, though one may enlist major company assistance.

First to be located is Gus Pongratz Oil Co.'s Grant No. 1, not strictly wildcat, which will seek to extend Seventh and Eighth Callender zone production from Dominguez westerly to Main Street. The location chosen is 206 ft. north and 737 ft. east of the intersection of Main Street and Walnut Avenue or about 2700 ft. northwest of Russell Havenstrite's recently completed Larronde No. 1 at the west edge of Dominguez. Barring unforeseen faulting, Miocene production should extend to this point, according to Robert Van Acker, Gus Pongratz and Bob Roulston, company officials.

With the Pongratz organization dominating the picture, leasing has been quite active in the South Gardena tract which divides into small properties both sides of Main St. from Victoria St. to the Rosecrans field. The site of The

Time out for lunch at Royalty Service Corp.'s Riverside No. 1, Rosecrans addition. The innocent bystander, extreme left, is gazing admiringly upon, left to right, Joe Billingsley, H. C. Elder, Sam Collins, John Artz, H. E. Peterson, and R. H. Coleman.

Texas Co.'s 7888 ft. abandoned Gardena Comm. No. 1 at the northeast corner of Figueroa and 166th St. is again under lease and rumors are heard that the old hole may be re-entered and deepened another 1000 ft.

So keen is the interest that it is probable that at least one other operator will start drilling even before the Pongratz well can reach the sands.

Of equal importance and popular interest is the projected test of El Rey Oil Co. at the northwest corner of Imperial Highway and Western Avenue. Located a mile and a half northwest of the Athens field on a line with Potrero, the well will attempt to find an entirely new accumulation against the Inglewood fault. Nestled among a group of 5000 to 6000 ft. dry holes drilled in the 1920's, the test will be carried to 8500 ft. if necessary with the equivalent of Seventh and Eighth Callender zones as the ultimate goal.

Not to be regarded too lightly, however, are the possibilities of the shallower sands which are productive in neighboring fields. Across Western Avenue to the east is the Pan American Petroleum Co. Anderson No. 2, drilled to 6119 ft. in 1925. On the same property as the new well is the 6000 ft. C.C.M.O. Co. Bilhorn No. 1, abandoned in 1926. To the northwest, Associated Oil Co. drilled Johnson No. 1, abandoning at 5507 ft. in 1927. Most recent attempt is that of Dr. Frederick A. Speik, who in 1935, abandoned his Johnson No. 1 at 5194 ft. None of these wells reached the top of the Miocene and all but the last were drilled before the perfection of the core barrel and the introduction of the electric log and core analysis. As 45 gravity oil is produced from light gray sands in both Potrero on one side and in Athens on the other, it is within the realm of the possible that productive high gravity horizons were unwittingly passed up in one or more of these wells.

Locally, El Rey Oil Co. is represented by Wm. C. Crittenden who in 1922 drilled a well in the Puente Hills which was later deepened by H. A. Bardeen.

Basin Methods Used At Coalinga Northeast

Gas control, as achieved at West Montebello, by the use of an adjustable valve inserted in the tubing opposite perforations in the gas zone, has been effected by the Union Oil Co. in Cook No. 57-18B in sec. 18,19-16. With 7 in. casing cemented at 8055 ft. and 5 in. liner cemented on plugged bottom at 8199 ft., perforations were made opposite the gas sands from 8076 to 8100 ft. and opposite the good oil sand from 8155 to 8160 ft.

With 2½ in. tubing hung at 8137 ft. with a packer between the perforated intervals in the liner a valve or adjustable bean inserted opposite the upper holes, the gas flow may be controlled in a manner to properly raise the oil from bottom.

Brought in under strict control, the well made 172 barrels of 33.4 gravity oil through a 14/64 in. bean with a 1,172,000 foot gas flow. By regulating the

Ed Kasey, who drilled Soto No. 1 and Dormax No. 1, Signal Hill's two successful deep tests, hopes to make it three in a row when he drills South Basin Oil Co.'s No. 93 down below all previously exploited formations in the Huntington Beach field. On the rig, left to right, are: D. Knox, Bob Ortiz, J. W. Witt, G. C. Fairchild, and Roma Davison.

Laying a 6-in. water line to Royalty Service Corp.'s Riverside No. 1, one of the two most southerly outposts in the Rosecrans addition testing activity, are L. P. Starkey, J. H. Hughes, and L. T. Morgan.

size of the orifice in the tubing it will be possible to improve the ratio.

The successful completion by the use of the valve marks the second time the method has been tried in this district. Superior Oil Co. used a like system in Husong No. 1, which came in successfully but in endeavoring to change the orifice, the setting tool was lost, and since the well was functioning satisfactorily the valve remains unaltered.

H. B. Deep Test Drills at 5200 Ft.

South Basin Oil Co.'s east side Huntington Beach deep test, well No. 93, is drilling and spot coring below 5200 ft.

In the Five Points area, Sara Orr is preparing to complete at 4500 ft., after recementing 7 in. casing at 4450 ft. W. T. Ball cleaned out the old Apex Harper No. 1 and cemented 7 in. casing at 4090 ft. for a production test.

Drilling equipment has not yet been installed in M.C.A. Drilling Co.'s rig on the flat east of town.

Wilmington Is Independents Field

Despite a lack of outstanding developments, Wilmington remains the brightest spot in the California industry for independent operators. No major company is active in the field aside from General Petroleum Corp. (now drilling one well) but 25 individual companies are now working on one or more wells each.

The production situation, once a serious threat, is well under control with a daily average of 84,667 bbls. for the last week in December, which is only 3730 bbls. daily over the Umpire's allowable. This is, of course, bad enough but is insignificant compared with the Kettleman North Dome daily overage of more than 19,000 bbls.

Completions are satisfactory in all sections of the field; the smallest of 11 in the past two weeks being J. M. Jackson Exploration Co.'s No. 2 which was drilled and in the tanks in an elapsed time of 10 days, flowing 150 bbls. a day of 14 gravity clean oil from 3500 ft.

Continental Corp. is scheduled to immediately start the first of at least 20 wells on the west bank of the Flood Control channel, marking the easterly field boundary.

New Gasoline Plant In Potrero Oil Field

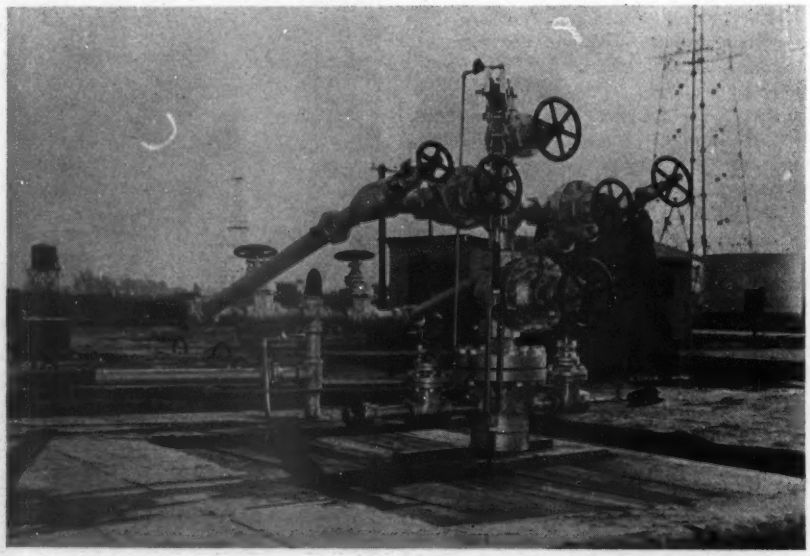
Recently completed in the Potrero Field at Inglewood is the Inglewood Gasoline Co.'s new plant, formerly the No. 2 State Gasoline Plant at Signal Hill.

The plant has a rated capacity of 12,000 to 15,000 gallons per day with necessary provisions to allow for future increase in capacity.

Karl Steinbeck, well known natural gas engineer is superintendent of the plant.

The president of the company and the board of directors are: E. H. Bashaw, president; Frank Blount, K. G. Steinbeck.

Complete dismantling, moving and reerection was engineered and directed by the Oil Field Construction Co. of Long Beach, Calif.



This neat arrangement of Kerotest, Crane and Darling valves on a Shaffer head control production on Slabaugh No. 1, top ranking well in the Rosecrans addition, which registered an initial potential of 1000 bbls. a day of 32° gravity oil, for Southern California Petroleum Corp.

LAUGH THIS OFF

There is no question that the radio has annihilated space, but it still takes an oil man to kill time.

And **Bill Geis,** the well known Wildcat, after witnessing the recent High Jinks shows, that part of it at least which he wasn't in himself, remarked, "Not long ago being knock-kneed was a misfortune, now it's a dance."

Bill's famous illustration of the bond that exists between petroleum workers is still a classic. The story concerns a young woman who had been married to an oil man for a very short time when one night he failed to show up for dinner. She became really alarmed when midnight arrived and he was still missing, so much alarmed in fact that she called messengers and sent notes of inquiry to six of his friends. From all six came prompt replies, "Don't worry, Bill is spending the night with me."

Then there was **Ernie Parks** sad story about the geologist who was prospecting in one of the more remote regions of Wyoming. He had put up at a small hotel which was maintained mostly by cowboy custom, and having retired one evening, he was just dropping off to sleep when dense clouds of smoke began to issue from an open grid radiator. He jumped out of bed, ran down the lobby into a group of punchers, yelling "Fire! Fire!" and they did.

Fortunately the company he was working for had two more geologists.

And that reminds us of the night Vic **Wilhelm** put up at a small hostelery out in the sticks somewhere. There was no mattress on the bed, and the proprietor merely laid a thin sheet over the springs. For about four days after that Vic gave a swell imitation of a waffle.

Bob Thomas next comes up front swearing that water is such a valuable commodity in Arizona, that when Jupiter pluves even the tinest bit, the natives all go indoors, so that they won't stop any rain from hitting ground.

Which recalls **Roy Bauer's** famous crack. Roy says every time he goes to San Francisco it rains cats and dogs, and it's always his luck to step into a poodle.

Bill Saul, on the other hand, who hails from the Bay City, contends that the finest thing in Los Angeles is the train back to San Francisco.

And **Walt Dayhuff** tells us about the gasoline plant operator who was ordered to take some exercise, and promptly began to play the horses at Santa Anita.

Cy Rubel has been doing jury duty for some time and cites the case of the other jury man who was challenged. He thought it was to a fight and hasn't been seen since.

Wherewith, for no particular reason, we break into poetry again. It's a cute thing we found on the newspaper that the meat was wrapped in the other day, and goes as follows:

There was an oil man from Nantucket
Who kept all his cash in a bucket
His daughter, named Nan
Ran away with a man
And as for the bucket, Nantucket.

Now comes **Ed Kasey** expounding a piece of sagacity that is really worth consideration. Says Ed, "Most every guy has tasted defeat, but the successful lads are the ones who refuse to swallow it."

And that reminds us of the ancient proverb, "Success in the oil business is largely a matter of knowing just when to disagree with your boss."

A boss being a guy who always thinks the load you've dumped on the south side of the building would look better on the north.

As we go to press we are happy to report that **Hubert Terry** is now fully recovered from the cowardly attack of a poison oak tree, and again has the full use of his skin.

All of which brings up to the end of another highly educational seance. Remember as Josh Billings used to say, "There is lots of people who mistake their imaginashun for their memory."

And an optimist is merely a fellow who doesn't know yet what's coming to him.

Whereupon, despite the inconvenience of the thing, we wish our readers the best of everything during 1940.

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Well Heater Solves Production Problems

By S. A. Germain

For many years a serious problem has confronted the California oil operators in connection with the production of the so called low gravity oils of asphaltum base. These heavy oils clog up the liner perforations and even the oil sands of the structure itself so that production is seriously interfered with and often reaches the point where it is no longer possible to produce the well. When such a condition arises such temporary expedients are attempted as the use of distillates, "hot oiling" and even the use of steam.

Of these methods only "hot oiling" has shown any degree of success and its effects are only temporary at best.

Engineers have for several years had in mind the development of an electric heater to afford permanent heat to the well and several attempts have been made to perfect such a device but lack of essential materials has delayed this development.

It has remained for the Electrotherm Co. to perfect the first successful device of this kind and this has been the result of two years thorough field experiment. Various materials and processes have been tested with the ultimate purpose of arriving at a product that could be relied upon to give continuous service under extreme conditions of high temperature, high pressures and at the same time well insulated electrically.

That this has been accomplished by the Electrotherm Co. has been proved by the success which this heater has met with in actual service. Wells which have been clogged up for years have been freed of their residuum accumulalation and brought into real production. In no case has an Electrotherm heater failed to increase the production of a well more than 50% and in some cases as high as 160% at a nominal cost for power.

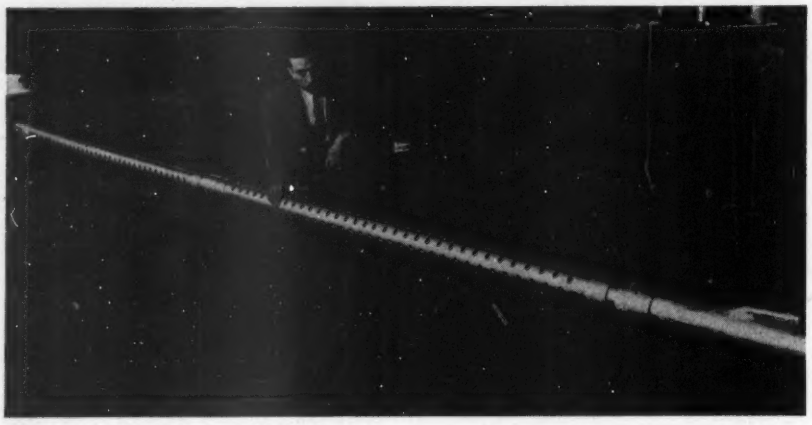
Cheap, dependable electric power is now available in nearly every field and where wells are already electrically pumped the heater may be connected to existing lines. An electric heater is practically an 100% efficient device in as much as all the electric energy it absorbs is converted into heat. Even the transmission losses though small occuring in the cable from top of well to heater are converted into heat so that the operator gets the benefit of every bit of energy that he buys for use in the heater.

Control of the heater is accomplished by means of special transformers on which are provided a wide range of operating voltages. On each installation an Electrotherm engineer determines the most economical operating temperature for the well and sets the transformer tap voltage accordingly.

The heater itself is strictly an oil tool, rugged in every particular with joints and couplings made in strict accordance with API specifications. It is attached to the tubing string and mounted directly below the pump. The connections from heater to cable are made through special leak-proof junction boxes of Electrotherm design and patent. The cable is of special design and manufacture for oil well work. It is suspended in the well and clamped to the tubing at convenient intervals. No top of the ground equipment is required other than the two transformers and two standard EXO switches.

The Electrotherm oil well heater is very easy to install and may be done by a regular well crew working under supervision of Electrotherm engineers. This operation requires little more time than ordinary pulling a well and running tubing. Usually a well can be pulled, a heater installed and the well be put back on the pump in one day.

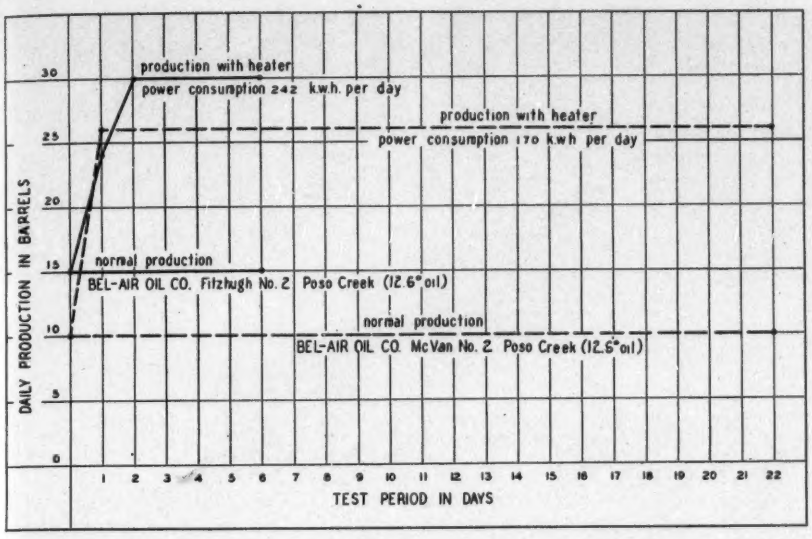
On account of the lower viscosity of the oil due to heat the duty on the pump,



The gentleman is examining a new type heater designed for installation in a Poso Creek well. The large holes allow free circulation of fluid around the heating elements inside the protective shell.

First Electrotherm installation required three separate transformers in contrast to the compact surface units now employed.

Installed on the bottom of the tubing, the heater units resemble tubing joints perforated with large holes.


production with heater
power consumption 242 k.w.h. per day
production with heater
power consumption 170 k.w.h per day
normal production
BEL-AIR OIL CO. Fitzhugh No. 2 Poso Creek (12.6° oil)
normal production
BEL-AIR OIL CO. McVan No. 2 Poso Creek (12.6° oil)
DAILY PRODUCTION IN BARRELS
TEST PERIOD IN DAYS

rods and other pumping equipment is greatly reduced resulting in great saving in lifting costs and up-keep. Experience has shown the lifting cost alone to be reduced as much as 33%.

Experience has further shown that an Electrotherm heater eliminates a great deal of sand troubles. An Electrotherm heater has never sanded up. As the heat penetrates into the structure the sand drops out of the oil now lighter due to heat. Where water is present the heat tends to separate the water from the oil and hence reduce the emulsion. This alone represents a considerable saving in subsequent treatment.

The heating elements themselves are of a patented design which has proved itself thoroughly reliable after years of service in similar applications. Being of the resistance type makes the completed assembly a practically 100% power factor device. The heater is absolutely non-inductive, in fact recent tests show it to have a slight capacity effect tending to produce even a higher power factor. This characteristic is especially desirable from a power purchase standpoint in as much as high power factor loads enjoy the most favorable power rates. When a heater is used in conjunction with a motor load it is possible to bring the resulting power factor of the combined load to a point where the operator might benefit by a better rate.

Electrotherm oil well heaters are thoroughly insulated electrically and are not dangerous to well or operators. They have no exposed wiring and as they have no moving parts are as safe to operate as any electrical device such as motors, etc. An Electrotherm oil well heater requires absolutely no attention once it is installed.

Summing up these advantages they may be enumerated as follows:

Increased Production. Due to heat the heavy oils are released more readily from the structure and easily pass through the perforations which have been freed of any accumulations. As stated above no Electrotherm heater has failed to increase the production of any well more than 50% and has gone as high as 160%.

S. A. Germain of Electrotherm poses on a Midway well equipped successfully with one of the new heaters.

Flexible Control. The correct temperature in the well can be obtained by adjusting the taps on the special transformers. Since this is by voltage control there are no losses and the correct temperature is obtained to give maximum production at minimum cost for energy.

High Power Factor. Many operators go to the trouble and expense of installing "Capacitors" and other devices just to increase the power factor of their electrical load to enable them to secure a more favorable power rate. These devices have no other function than to improve the power factor hence are a dead investment. The heater accomplishes this and at the same time does useful work in heating the well.

Lower Lifting Costs. Results have definitely proved that the power required to pump a well in which a heater has been installed is definitely less. This is due to the lower viscosity and imposes less burden on rods as well as resulting in lower maintenance.

No Sanding up. No Electrotherm oil well heater has ever sanded up, although they have been installed in wells that previous to their installation gave severe sand troubles.

Eliminates emulsion. To operators who have experienced this trouble this is a distinct relief.

Safety. An Electrotherm oil well heater has no exposed wiring and produces no sparks or other fire hazards.

No Upkeep. An Electrotherm oil well heater requires no attendance, no labor other than installation. Simply throw the switch and it does the work.

A. S. Russell Elected Standard Vice President

The board of directors of the Standard Oil Co. of California has elected A. S. Russell a vice president of the corporation, filling a vacancy caused by the retirement of R. W. Hanna.

Mr. Russell entered the manufacturing department of the company at El Segundo as an engineer in 1911. He served later at the Bakersfield and Richmond refineries. He became chief engineer of the manufacturing department in 1918. He was made a member of the board of directors in January, 1931.

Dowell Geologist Heads Oil Show Group

P. E. Fitzgerald of Tulsa, Okla, Dowell geologist, has been named chairman of the International Petroleum Exposition's Committee on Geology and Exploration. The committee, under direction of Mr. Fitzgerald, will take an active part in developing the scientific exhibits to be displayed at the annual convention which will be held in Tulsa, May 18 to 25.

Mr. Fitzgerald has been in the employ of Dowell Inc., pioneer of chemical service for oil and gas wells, since 1933. His background includes an A. B. degree in geology from Ohio State in 1926; field work with University of Michigan; U. S. Geological Survey; Ohio Geological Survey; Pure Oil Co.

Here are the 1940 officers of the Nomads, left to right: S. R. Robinson, asst. sgt. at arms; E .B. Fowks, sgt. at arms; S. R. Bowen, vice president; Ted Sutter, president; E. L. Decker, national regent; W. F. Bettis, secretary-treasurer; Earl Rees, asst. secretary-treasurer

Ted Sutter Elected Nomad 1940 President

Featuring the regular monthly meeting of the Los Angeles Chapter of Nomads held in Los Angeles Jan. 3 was the election of officers for the year 1940. Ted Sutter of Baker Oil Tools, Inc., was elected president; S. R. Bowen of S. R. Bowen and Co., vice-president; W. F. Bettis of M. O. Johnston Oilfield Service, secretary-treasurer; E. M. Rees of Fluid Packed Pump Co., asst. secretary-treasurer; E. B. Fowks of Emsco Derrick & Equipment Co., sergeant-at-arms, and S. R. Robinson of Yowell Service Co., asst. sgt.-at-arms. E. L. Decker of Martin-Decker Corp. and W. F. Bettis were re-elected national regents.

At the dinner following the meeting the retiring president, E. L. Decker, was presented with a key embellished with the derrick emblem of the Nomads. The presentation was made by Bill Bettis who also presented both Elmer Decker and Ted Sutter with gavels as symbols of their office.

Short talks were given by "Brick" Elliott and Abe Haglund who have just returned from foreign trips. "Frosty" Martin then told of some Canadian experiences of many years ago. The speaker of the evening was Dr. Thomas Clements of the University of Southern California who was introduced by John Dodge, professor of petroleum engineering at the University of Southern California.

Dr. Clements illustrated his address

Dr. Thomas Clements

Prof. John Dodge

R. W. Carter, B.C.O., Maracaibo.

with colored slides which showed interesting scenes in Colombia where he recently did some extensive geological work for the Colombian government. In addition to describing the country surveyed he also spoke of the cooperation given by the government to him and to the oil companies operating in Colombia.

Among the visitors from other countries attending the meeting were R. W. Carter of B.C.O. Ltd., Maracaibo, Venezuela; Leo E. Chisholm of International Petroleum Co., Talara, Peru; J. W. Gifford, recently from South America and now superintendent for an oil company in Long Beach; Claude Goss, Caribbean Petroleum Co., Mene Grande field, Venezuela; H. G. Haney, recently with Mene Grande Oil Co. in Venezuela; C. D. Hendershot of Bahrein Petroleum Co. at Bahrein Island; Bob Kuss of Mene Grande Oil Co. in Venezuela; and Harry Webb of Caribbean Petroleum Co. at the Mene Grande field.

Foreign Delegates Asked To Tulsa Oil Show By U. S.

The possibility of the largest international attendance in the history of the International Petroleum Exposition is forecast by W. G. Skelly, president of the exposition to be held May 18 to 25, 1940, in Tulsa, Okla. The Exposition and the United States Government have issued invitations to nations of the world to send delegates to study the oil equipment and developments which will be on display.

Formal invitations, in the form of a large purple velveteen portfolio, have been tendered to official representatives of nations of the world.

Kettleman Eocene Development Plan Based on Gas Production

A plan for development and production of the Eocene zone at Kettleman Hills has been submitted by the Kettleman North Dome Association to all operators at Kettleman Hills who are not members of the Association and whose properties are probably underlain by the Eocene.

The plan is based on gas production from the Eocene formation it having been the Kettleman North Dome Association's contention for a number of years past that Kettleman oil production must be considered in relation to the gas production from the field. The plan sets up quarter-sections as Eocene operating units, Eocene production from each quarter-section to be governed by characteristics of the Eocene formation underlying any given section in comparison with that underlying the "master" quarter-section. Superior Oil's quarter-section, the Huffman lease, has been selected as the "master Eocene operating unit", hence, if the plan is generally adopted by operators in the area, all other quarter-sections in the field will be produced in relation to that quarter-section. Eocene gas production from the Huffman quarter-section will be approximately 5,000,000 cubic feet per day with oil production at about 200 barrels per day and Eocene production from other quarter-sections will approximate that figure.

The plan has been submitted to all operators in the field who are not members of the Association. These operators are: Standard Oil Co., Union Oil Co., Superior Oil Co., and Robert S. Lytle. None of them has offered any criticism of the fundamentals of the plan, and the Association has reason to hope that it will be adopted. In an effort to speed its adoption, the Association has for the first time cut its daily oil production below the minimum set up in the Kettleman unit plan agreement. This action, which reduces Kenda's oil output by 2553 bbls. per day, required the unanimous vote of the Association's Board of eleven directors. If other operators follow Kenda's action, total reduction of oil output from the field will be approximately 7500 bbls. per day, bringing daily production down to 44,854 bbls. from current levels approximating 52,500 bbls. daily.

The Association's action is for the month of January only. If reductions in Kettleman gas production are made, and if the Eocene plan is adopted, it is possible that the January production cut will be continued. It is pointed out in the resolution of the Kenda board agreeing to the reduction in production that certain operators have indicated a willingness to reduce their gas production, and in consideration of that expressed willingness, as well as in the desire to cooperate in the state-wide voluntary curtailment program, the cut in output is being taken. The Eocene plan also is in conformity with the newest phase of the voluntary curtailment program, since, being based on the volumetric relationships of quarter-section operating units, it will tend to discourage unnecessary drilling. It is also in conformity with the present trend of

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Cameron-Well Heads, Blowout Preventers, Mud Valves
Case Pumping Engines
Cardwell, Drawworks, Well Service Hoists
Chiksan Hose, Swing Joints
Crown Hydraulic Pumping Units
D & M Pistons—Rods, Liners
Edwards Wire Rope
Howard Production Crowns
Howard Pumping Units
Hughes Bits—Tool Joints
Kropp Forged Flanges, Welding Nozzles
Link-Belt Rotary Chain, Mud Screens
Manhattan Mechanical Rubber Hose—Rotary Hose
Marsh Gauges
Mills Bull Plugs, Swage Nipples
Norris Sucker Rods
Perfection Thread Lubricant
Plant Packings
Ratigan Production Equipment
Raybould Couplings
Red Devil, Valves, Liners, Pump Parts
Reed Bits—Tool Joints
Republic Casing and Tubing
Republic Line Pipe
Republic Merchant's Pipe
Rex Pre-Heaters
Skinner Stuffing Boxes
Stockham Pipe Fittings
Thompson Shale Shaker
T. I. W. Rotary Slips
Titusville Boilers, Rotaries, Pumps, Engines
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conservation efforts, which look not so much to daily production levels as to the best production methods, so that the ultimate recovery of oil from any producing formation will approach 100% as closely as possible. The Association contends that to continue to take gas from the field at the present rate, yet to reduce oil production to any disproportionate extent and thereby increase gas/oil ratios, is actually to create a condition of "waste." The Eocene plan, in which gas production and oil production are definitely linked through engineering formulae, will avoid such a condition with respect to production from the comparatively recently discovered deep Eocene formation, Association engineers say.

The resolution of the Kenda Board, authorizing the lower January production levels, follows:

"Whereas, for some time the Kettleman North Dome Association has been negotiating with other operators in the North Dome of Kettleman Hills for a reduction in the production of wet gas from the Temblor and Eocene formations in order to conserve gas and prevent loss of oil, and

"Whereas, certain of the other operators in said field have indicated a willingness to make certain reductions in gas production, and

"Whereas, owing to the definite accomplishments of these negotiations and the benefit which will accrue to the Kettleman North Dome Association by reason of such reduction in gas production and in order to perpetuate these conditions as far as possible, the Directors now feel that a reduction in oil production by the Association is justified

"Now, therefore, be it resolved, that during the Calendar Month of January, 1940 only, Kettleman North Dome Association reduce its daily production of oil to a rate not to exceed 22,253 bbls. per day, being its acreage share of 44,854 bbls. per day, or 10.2918% below the minimum of 50,000 bbls. per day at North Dome field, as provided in Article IX of the Unit Agreement.

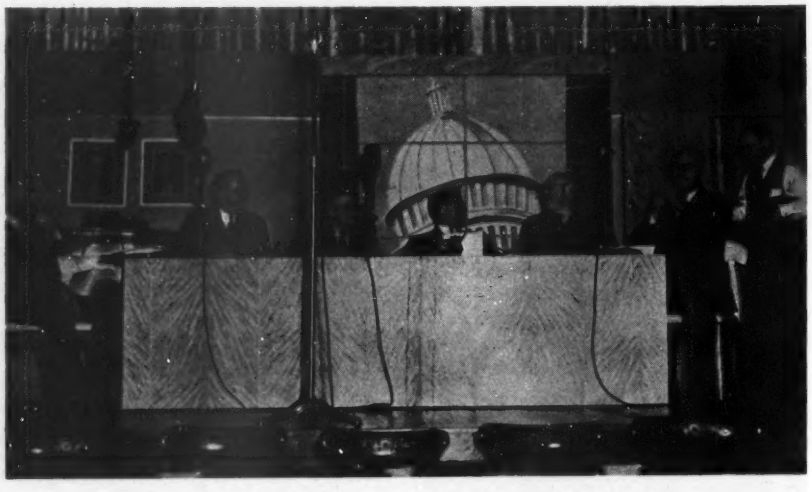
"Be it further resolved, that the manager of Operations be instructed:

"Effective 7:00 A.M. on Jan. 1, 1940, to produce oil at a rate not to exceed 22,253 bbls. per day; and unless otherwise instructed by the unanimous vote of this Board,

"Effective 7:00 A.M. on Feb. 1, 1940, to produce oil at a rate not to exceed 24,806 bbls. per day, being the Association's acreage share of 50,000 bbls. per day for the North Dome field, as provided by Article IX of the Unit Agreement."

At the Wildcats' Hi-Jinks

It looks like the Navy has Bill baffled, not something nautical, it's certain.



These wildcats are wizarding for Washington.

California Oil and Gas Assn. Elects Directors for 1940 Term

R. E. Collom, vice president of the Continental Oil Co., was elected president of the California Oil and Gas Association at the December meeting of the Association board of directors. Torrey H. Webb, vice president of The Texas Co., and William Reinhardt, vice president of the Union Pacific Railroad Co., were elected vice presidents. H. L. Westbrook, vice president of the Belridge Oil Co., was re-elected treasurer for his 15th successive term. Col. F. E. Foster continues as managing director, and D. S. Kilgour continues as assistant manager.

Directors elected for 1940 include: S. Belither, vice chairman, Shell Oil Co., Inc.; W. H. Berg, president, Standard Oil Co. of California; R. A. Broomfield, executive vice president, Barnsdall Oil Co.; D. S. Faulkner, vice president, National Supply Co.; E. B. Gilmore, president, Gilmore Oil Co.; Dana Hogan, president, Hogan Petroleum Co.; Charles A. Johnson, president, Holly Oil Co.; C. S. Jones, president, Richfield Oil Corp.; W. M. Keck, president, Superior Oil Co.; R. B. Lloyd, president, Lloyd Corp.; C. R. Gallagher, president, Western States Gasoline Co.; John McFayden, vice president, Ohio Oil Co.; Alexander B. Macbeth; A. C. Mattei,

president, Honolulu Oil Corp.; F. C. Ripley, manager, Chanslor-Canfield Midway Oil Co.; L. P. St. Clair, president; Independent Oil Producers Agency; Reese H. Taylor, president, Union Oil Co. of California; F. S. Wade, president, Southern California Gas Co.; C. P. Watson, vice president, Seaboard Oil Co. of Delaware; A. L. Weil, president, General Petroleum Corp. of California.

News Service Closes Third Successful Year

In January of 1940, California Oil World News Service closes its third year of serving the Petroleum and Supply industries.

Conceived originally as simply a tip sheet for supply and service companies, the original 22 page report doubled in size within five issues and the circulation grew by leaps and bounds. Behind this mushroom growth, however, were very substantial reasons. Reasonably good "scout reports" had been published for many years but never before had such data been presented so thoroughly, accurately and legibly. Never before had a real News Service been available to operator and supply company alike, giving all the well data plus personnel, addresses, etc. of all new operators as well as new undertakings of established companies.

Designed to suit the needs of the person who needs reliable and specific information, the California Oil World News Service includes weekly a news page giving happenings of headline importance, an index of all data in each issue, a list of new operators with their addresses and personnel, a miscellaneous field activity section, a complete listing of new well locations, corrected locations and well completions, a tabulation of notices to the State Division of Oil and Gas to drill, redrill or abandon wells, a section devoted to property and ownership changes as shown on State records and a table showing daily production and allowable of each California field.

The main body of the Service is devoted to the listing of each individual well active in the state, giving for each its elevation, depth, casing, formation at bottom, geologic markers and all other pertinent information.

The combining of this unprecedented amount of useful data together with the distribution of timely maps and diagrams places California Oil World News Service far in the lead in its field and accounts for its becoming in so short a time the eyes and ears of the California oil industry.

Above and on the opposite page you get intimate glimpses of the Wildcats steaming up for their presentation a few hours hence of the stirring drama, "The Wizard of Ooze," a problem play with all of the answers. Note the resemblance of the actors to well known oil operators, equipment purveyors and the like.

Another Packed House For Annual Wildcat Fete

With the S.R.O. signs hung up early, the mimes of the Wildcat Committee enacted the Washington scene with some slight over-emphasis before a palpitating audience of oil men lured by the fetching title of the play, "The Wizard of Ooze," at their annual Hi-Jinks at the Biltmore, Dec. 20.

The actors and their roles were: Joe Jensen, the President; Bill Geis, "Harold the Great"; Harold Wyatt, the brilliant Murphy; Neil Needham, the Messenger; Mark Woolery, Palsy Wales; Bill Pemberton, Charlie Groans; Frank Morgan, Admiral Greenburg; Dave Kilgour, B. Lighter; Bill Brooks, Borrey Webby; Ward Blodget, First Reserve; Bill Whaley, Bill Board; L. L. Aubert, Grease Trailer, Second Reserve; Olen Lane, Third Reserve; Dick Clark and Frank Champion, Fourth and Fifth Reserves.

You are reading the Pacific Coast oil men's home paper.

Field Development

San Joaquin Valley

Union Oil Co. Sets Long Water String

Bottomed at 12,144 ft. in shale after reporting several intervals of oil sand below the top of the Stevens zone, Union Oil Co. has cemented a string of 6⅝ in. at 11,662 ft. in Bowerbank No. 4-23. Located in sec. 23,29-24, the test is correlating approximately 650 ft. higher than the recently abandoned 12,989 ft. hole drille din sec. 7,29-24 by the California Exploration Co. Union will make a series of tests to evaluate sands which were found to be too tightly packed for commercial production in the abandoned well. Stratification and character of sands are reported to be markedly similar in the holes.

Ray of Hope For Richfield Test

Continued drilling by the Richfield Oil Corp. in its Buena Vista Lake try, BVA No. 81-36, has brought some hope for possible oil production. The well, situated at the north tip of the Buena Vista gas field in sec. 36,31-25, flowed gas at a 12,500,000 cubic feet daily rate on routine tests of the 4th Mya gas zone near 5200 ft. The hole, which was designated as a test of the Stevens zone, was drilled in barren formations to 11,050 ft. where gray sand showing streaks of oil sand was entered. At last report the well was bottomed at 11,153 ft. in the streaky zone. Top of the Stevens, upon which most hope had been placed, was entered near the 10,300 ft. mark and discovery of these meager showings so much deeper indicates that the sands may be the equivalent of those present in Ohio Oil Co.'s KCL No. A-8, abandoned at 11,-186 ft. with oil showings at bottom.

At the southwesterly limits of the lake and near the Buena Vista Hills, General Petroleum Corp's BVA No. 1 has sidetracked a fish in the 10,614 ft. hole and is cleaning out near 6600 ft. after setting 9 in. pipe at 4973 ft. This well topped the barren Stevens near the 10,550 ft. mark which was much lower than expected and has reported no showings to date.

Shell Oil Co. has reclaimed nearly all of the hole lost when formations caved in its BVA No. 45-9. Located at the south edge of the lake in sec. 9,32-25, the hole was being reamed at 9886 ft. in preparation for pipe when the hole caved. With 9⅝ in. pipe safely cement-

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SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
Cantua Creek	The Texas Co., S.P.	1	23, 17-15		Rigging up
Coalinga	Coalinga Pacific Oil Co., P.S.A.	7	6, 21-15		Location
	Lewis, C. H.	1	18, 21-15	800	Idle
	Rylatt, Harry E., Kipling	3	26, 20-14	2010	Idle
	Wilshire Annex Oil Co.	64–30B	30, 19-16	8383	Suspended
Gatos Creek	Gatos Creek Oil Co.	1	19, 19-13	466	Idle
Mendota	Jergins Oil Co., Cheney Ranch	1	29, 14-13	5000	Drilling
	Kern County				
Antelope	Par Petroleum Co.	1	32, 25-17	3032	Idle
Buena Vista	Gen. Pet. Corp., B.V.A.	1	1, 32-24	10614	Redrilling
	Richfield Oil Corp., B.V.A.	81–36	36, 31-25	11153	Drilling
	Shell Oil Co., B.V.A.	45–9	9, 32-25	9886	Redrilling
Buttonwillow	Union Oil Co., Bowerbank	4–23	23, 29-24	12144	Drilling
Devil's Den	Herzog, Raymond D.	1	27, 25-18	710	Reaming
	The Texas Co., Beer 2		8, 26-19		Location
Edison	El Tejon Oil & Ref. Corp., Douglas	2	32, 29-29		Rig
	Mayes, A. S.	1	5, 30-29	4222	Redrilling
	O'Rielly, Francis, Edison-Land	2	5, 30-29	4103	Bailing
Jasmine	Amerada Pet. Corp., Corehole	H	13, 25-27	1290	Drilling
	Bolling Oil Co.	1	15, 25-27		Location
Kern Front	Davis Petroleum Co.	1	13, 28-27	1295	Drilling
Kern River	Sleeper Ridge Oil Co.	1	15, 29-28	1797	Idle
McKittrick	Burt & Taylor, Taylor	1	30, 30-22	1047	Idle
	Calstan Pet. Co., Webber	1	34, 30-22	1220	Drilling
Panorama Hills	Burrhus, V. E.	2	31, 31-22		Rig
San Emigdio	Shell Oil Co. KCL 2A	52–13	13, 11-22	12925	Drilling
Shafter	Continental Oil Co., Comm.	1	12, 28-24		Rigging up
Shale Hills	Gamble & Oliver, Abbott	1	7, 27-19	1210	Idle
	The Texas Co., McD-Theta	1	12, 28-19		Rig
Ten Section	Richfield Oil Corp., James-Slough KCL	1	6, 31-26	8940	Drilling
	Kings County				
Kettleman— South Dome	Bristol Oil Co., Smith	1	35, 24-19	8054	Cleaning out
Reef Ridge	Chuka Oil Co.	2A	10. 23-16	185	Idle
W. Tulare Lake	Shell Oil Co., Cohn Estate	6–4	4, 22-19	4980	Drilling
Strattford	P. W. Burnham & Assoc., Bartells	1	23, 20-20		Rig
Trico	Pacific Oil & Gas Dev. Co.	1	7, 25-24		Location
	Tulare County				
Trico	Standard Oil Co., Bryson	1	28, 24-23	2475	Completing
	Trico Oil & Gas Co., Bryson	1	28, 24-23	2466	Deepening

ed at 7990 ft. the project is redrilling at 9450 ft. Last reported in cherty shale which overlays the Stevens, the well is obviously much higher on structure than the other lake tests and could indicate that the Stevens is productive at this point.

Texas Completes Two Coalinga Wells

After completing two important northeast extensions to the Coalinga Eocene Pool field in sec. 6, 20-16, The Texas So. is preparing to dril ltwo more outposts. Anderson No. 1 was completed from more than 550 ft. of formation open to 8200 ft. flowing 976 barrels of 29.6 gravity oil in 18 hours. With 200 ft. of zone open to a bottom in oil sand at 7190 ft., Exeter No. 4 was completed flowing 1254 barrels of 28.6 gravity oil through a 15/64 in. bean along with 450,000 cubic feet of gas.

Borton Finds Vedder Barren

With the barren Vedder topped at 2915 ft. and the hole bottomed at 2941 ft. in gray sand, F. E. Borton and Assoc. Ashe No. 1 has been abandoned. The well was located in sec. 2, 27-27 a little more than three miles west of Mount Poso production.

Tide Water Alters Deep Well Plan

At the insistence of conservation interests who feared that the success of a projected Vedder zone well at Strand would actuate a deepening and consequent production problem in many of the south Valley fields, Tide Water Associated Oil Co. has gracefully withdrawn plans to drill Strand-KCL No. E-25-7 as a Vedder zone test. The company plans instead to drill No. E-26-7 to the Stevens zone from which Strand field production is now drawn. The projected No. E-25-7, located in the odd numbered line of locations has been indefinitely held up.

Cantua Creek Area Gets New Driller

Continuing persistent efforts to locate commercial oil production in the Cantua Creek district of Fresno county, The Texas Co. is rigging up S. P. No. 1 in the northeast corner of sec. 23,17-15. The test lies two and a half miles southeast of Western Gulf Oil Co'sS.P.L. No. 3 which found a small amount of 35.8 gravity oil in the Temblor zone during operations in 1937. Two miles farther southeast the Shell Oil Co. discovered all formations barren to the Cretaceous in which the well, Port Costa No. 48-30, was abandoned at 10,711 ft.

A half mile northwest of the Western Gulf encouragement, Richfield Oil Corp. drilled Turk No. 1 to 9000 ft. in Cretaceous shale. The Temblor in this hole had no showings while a formation test of Domengine sands yielded only mud with a trace of gas.

C. H. Lewis To Re-Equip Coalinga Shallow Test

Finding his drilling equipment inadequate to satisfactorily test his lease at the south tip of the Coalinga shallow area, C. H. Lewis is preparing to install a heavier rig in well No. 1. Located near the west quarter corner of sec. 18,21-15, about two miles south of production, the well is bottomed at 805 ft. in gray sand.

Jergins Test Nears One Mile Depth

Drilling on the northeasterly flank of a structure some 24 miles northwest of Coalinga in the Mendota area of Fresno County, Jergins Oil Co.'s Cheney Ranch No. 1 was last reported near 5000 ft. in sandy shale suspected of being the Arroyo Hondo formations.

While accurate data is unavailable, it is reported that the Kreyenhagen was found near 3100 ft. with no oil showings reported to the present depth.

Davis Cements Kern Outpost

Seeking to extend productive limits of the Kern Front field, in sec. 13, 28-27, Davis Petroleum Co. has cemented 8⅝ in. casing at 1225 ft. Bottomed at 1295 ft. in gray sand and shale, the well placed the first tar sand at 1145 ft.

Deep Cable Tool Project Resumes

Resuming work after a short period of inactivity, S. M. Newton's Stafford No. 1 is digging in hard, coarse gray sand at 5270 ft. Located in sec. 18,31-21 in the Elkhorn-Carriza area, the well is one of the deepest cable tool jobs in recent California history.

The depth of this project is beginning to rival the Channel Oil & Development Co., who after six years of work bottomed a Santa Barbara Mesa hole at 6300 ft. with the sole use of cable tools.

In sec. 21,32-22 of the district V. E. Burrhus is in gray sandy shale at 1541 ft. with his well No. 4. H. E. Lee is trying to pull 8⅝ in. casing from Stewart No. 1 in sec. 7,32-22.

Stevens Missing in 10 Section Outpost

Drilling at 8940 ft. without showings, Richfield Oil Corp.'s Ten Section outpost James Slough-KCL No. 1 in sec. 6,31-26 appears to be a lost hope as far as Ten Section Stevens zone production is concerned. Located but a little more than a mile south of present productive limits, where the Stevens zone is normally found at 8000 ft., the well is nearly 1000 ft. deeper than the objective sands.

The well is, however, but a mile and a quarter northeast of Union Oil Co.'s Kernco No. 52-11 at Cole's Levee which

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topped the first Stevens sand near the 9500 ft. mark.

In view of the tests close proximity to a second major Stevens zone field it is not wise to entirely disregard the possibility that the well could be a Cole's Levee extension rather than an outpost of Ten Section.

West Tulare Lake Test At 5000 Ft.

Drilling at 5000 ft. on a projected deep test of the westerly limits of the Tulare lake bed, Shell Oil Co.'s Cohn Estate No. 6-4 is fulfilling a long felt need. Situated in sec. 4,22-19, 5 miles northeast of the south tip of North Kettleman Dome, the well will be the first test in many years and the only deep test of an area held by many to be exceedingly promising.

Richfield Sinks Core Hole Test

In line with adequate exploration of its tremendous south Valley holdings, Richfield Oil Corp. is drilling its sixth core hole in the area. The current hole is digging in the northeast corner of township 10n-range 19w on the Rancho El Tejon.

El Tejon O & R Starts 2nd Well

After plugging wet bottom sands and successfully completing Douglas No. 1 pumping an estimated 150 barrels per day from its Edison field outpost location, El Tejon Oil and Refining Co. is building rig for Douglas No. 2 near the southwest corner of sec. 32,29-29.

Across the section line, in sec. 5,30-29, Francis O'Reilly has also plugged and completed Edison Land Co. No. 2 pumping an average of 125 barrels 13 plus gravity oil cutting 70% water. At last report the well was sanded up and bailing was in progress.

In the same section A. S. Mayes has redrilled his well No. 1 to 3045 ft. in a try for the clean production achieved by El Tejon.

Bristol Oil Assumes South Dome Old Timer

Smith No. 1, an 8054 ft. hole drilled in the southwest corner of sec. 35,24-19 at the peak of Kettleman exploration by the Ohio Oil Co., has been resurrected by the Bristol Oil Co. A wooden rig has been erected and the hole is being cleaned out preparatory to running a Strata-Graph after which the operators plan to gun perforate zones expected to show in the log. Top of Temblor, a normal Kettleman productive horizon, was noted at 6856 ft. in the original drilling of the hole. Contrary to current reports the well will not be carried to the Eocene.

San Emigdio Test Cores Gray Sand

The sole survivor of a series of tests on the San Emigdo plains is bottomed in hard shale at 12,925 ft. after coring gray sand from approximately 12,850 to 12,920 ft. The well, Shell Oil Co.'s KCL No. 2A-52-13 in sec. 13,11-22, has sustained operations in the face of almost no encouragement, the only showings reported being streaks of sand showing light cuts near the 12,300 ft. interval.

Amerada Explores Jasmine District

Seeking to learn more of the much drilled Jasmine area, core hole No. H has been taken to 1300 ft. in sec. 13,25-27 by the Amerada Petroleum Corp. Bolling Oil Co. is reported to have made location for a well near the southeast corner of the nearby section 15.

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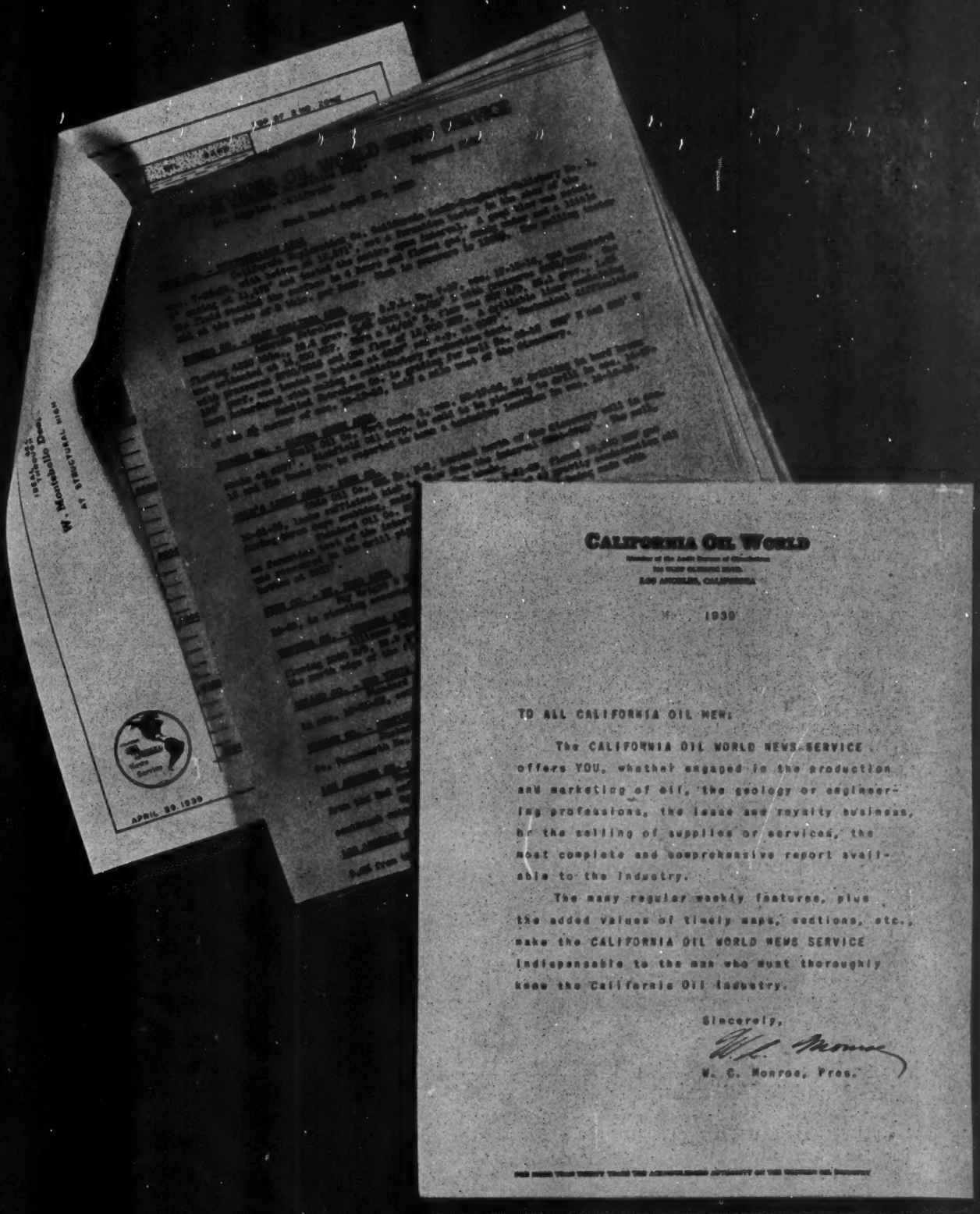

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Los Angeles Basin

The Texas Co. Finds Montebello West Limit

By finding the 8-1 zone barren at 7655 ft., The Texas Co.'s Wilcox No. 2 seems to have definitely pegged the westerly limits of production in the Eighth zone at Montebello. The hole was carried to the top of the 8-2 zone before being plugged to be redrilled and whipstocked in an easterly direction. The top of the zone was encountered somewhat lower than expected, indicating possibilities that dips steepen sharply or that a hitherto unsuspected fault cuts off production.

About 600 ft. east of No. 2, The Texas Co.'s Wilcox No. 3 topped the 8-1 zone at 7505 ft. and found it oil sand. This places the well on the 7200 ft. sub sea contour where it should normally belong and proves that the sharp drop lies between this well and No. 2 to the west. The company has neither confirmed nor denied a rumor that the No. 2 hole drifted westward, a circumstance which would account for its being unduly low structurally.

Another outpost well which ran true to form was Geo. F. Getty's Porter-Simmons No. 1 located half a block south of Beverly Blvd. and east of Wilcox Avenue. Although not flowing at this writing, the oil sand should be productive as it was encountered at the same sub sea level as Fullerton Oil Co.'s easterly outposts and Star Petroleum Co.'s southerly wells in the Maple Avenue sector.

J. E. Mabee Co. recently acquired Eighth zone and deeper rights on Kern Oil Co.'s Mulholland lease and has derrick up for No. 6, which will be drilled as soon as equipment can be moved from Mabee's Monterey No. 37, now flowing on an open hole test.

Drilling activity is definitely on the downgrade pending the development of a deeper zone. Only 20 strings of tools are now running compared with 30 one month ago; a decline of 33 1-3%. Several new organizations await ok's from the State Corporation Commissioner to float securities for the financing of wells.

Santa Ana Joint Test Abandoned In Volcanics

Striking Volcanics at the unexpectedly shallow depth of 5600 ft., the joint test located west of Santa Ana was abandoned at 5955 ft. Drilled under the names General Petroleum Corp. Was No. 1, the well was the community undertaking of sixteen operators holding leases in the vicinity. Situated near the southwest corner of Smeltzer Road and Buaro Avenue, in sec. 21-5-10, the project is the only one in the immediate area to encounter the volcanics which are said to be similar to those found in wells drilled near Anaheim.

West Whittier Well Drills Below 2600 Ft.

Drilling below 2600 ft. is the interesting well of West Whittier Oil Co. in the old West Whittier field. Almost a wildcat in the midst of a producing area is this project, it being the first to be undertaken here since the perfection of modern straight hole drilling methods. During its hey day, the field was considered spotty, that is, the production of adjoining wells varied widely for no apparent reason and correlations were extremely difficult. In the light of present knowledge it seems probable that the hard, steeply dipping beds overlying the oil sand caused the old holes to drift far from the vertical and that few of them penetrated the productive zone in favorable positions.

Vanguard To Spud Inglewood Wildcat

Vanguard Oil Co. is rigging up preparatory to spudding its Inglewood wildcat in sec. 29-2-14. Derrick was erected months ago and has been used by motion picture companies.

Wildcat Proposed For Buena Park

B. D. Phillips and V. K. Sturges are starting another wildcat well in sec. 34, 3-11, west of Buena Park in Orange

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Athens	Melrose Pet. Co.	1	12, 3-14		Rig
Castaic	Worland, C. C., Jenkins-Owens	1	18, 5-16	50	Drilling
Chatsworth	Fernando Oils, Ltd., Holmes	1	18, 2-16		Grade
Inglewood	Vanguard Oil Co., L.A.I.	1	29, 2-14		Rigging up
Mint Canyon	Redwood Oil Co., Mitchell	2	22, 4-15	525	Idle
Newhall	Mangrum and Page, Lintz	1	4, 3-15	852	Idle
	Canyon Oil Co., Sanborn	1	6, 3-16		Rig
	Consolidated Pet. Co., Needham	4	13, 3-16	4230	Drilling
	Tamas Oil Co., Perkins	1	11, 3-16	3880	Drilling
Palos Verdes	Rolling Hills Pet.	1	27, 4-14	6580	Testing
San Fernando	Continental Oil Co., Howell	1	2, 2-16		Foundation
Potrero Heights	Owen O Oil Co.	1	36, 1-12		Cellar
Puente	Kelso, F. W., Kelso	1	13, 2-10	2380	Idle
	Stabeck & Assoc.	1	14, 2-10		Rig
Sunland	Casa Grande Oil Co., Lopez-Lundy	1	1, 2-15	2266	Drilling
Torrance	Dominguez Estate Co., Fee	1	2, 4-14		Rigging up
West Whittier	West Whittier Oil Co., Pellissier	1	17, 2-11	2575	Drilling
Whittier	C. W. Partridge, Hillside	1	22, 2-11	1780	Idle
	Orange County				
Costa Mesa	Thompson, Milton N. Banning	1	9, 6-10	2896	Drilling
Santa Ana	Gen. Pet. Corp., Was	1	21, 5-10	5955	Suspended
Yorba Linda	Morgan, George, Fricke	1	21 ,3-9	2120	Fishing
	San Bernardino				
Carbon Canyon	Carbon Canyon Oil Co.	1	30, 2-8	256	Idle
	Hokom, John, Oil & Gas Co., Ltd., Hokom	1	31, 2-8	2941	Idle
	San Diego County				
Imperial Valley	Sheran, John F.	1	3, 12s-8e	2500	Drilling
	Imperial County				
Imperial Valley	Venice O. & R. Co.	1	1, 11s-13e		Location

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Contra Costa	Tassajara Oil Corp.	1	9, 2s-1e	5227	Drilling
Monterey	Loma Grande Oil Co., Corey	1	23, 24s-10e		Location
	Priest Valley Pet. Co., Greve	1	22, 20s-12e	1820	Drilling
Sacramento	Superior Oil Co., Larsen	1	17, 3n-3e		Location
San Benito	Consolidated Pet. Co.	1	11, 17s-11e	2120	Idle
Solano	Richfield Oil Corp., Potrero Hills	2	5, 4n-1w		Rigging up
Sutter	Buttes Oilfields, Inc., McPherrin	6	1, 15n-1e	6471	Drilling

county. The derrick is to be constructed near the center of the section, only half a mile from D.H.B. Oil Co.'s project which was abandoned a year ago at 6150 ft. Two miles to the northwest, John McKeon and Associates carried Carmenita No. 1 to 9157 ft. before abandoning last May. The Repetto-Pico contact was placed at 7500 ft. in the latter well.

Interest High In Castaic Area

Interest is at its highest point in years in the Castaic area. C. C. Worland spudded in Jenkins-Owens No. 1 in sec. 18,5n-16w and Ray Reese, superintendent of Pedro Petroleum Co., has built a derrick in the adjoining sec. 24,5-17.

Dominguez Estate Co. Seeks New Oil Field

Seeking a new oil field on property it owns in fee, Dominguez Estate Co. is rigging up to drill a well on 203rd St. west of Western Ave. The company believes the chances are good of finding a separate structure paralleling the huge Torrance field. Two possible zones may be found productive; the sandy phase at the base of the Repetto, similar to the old Main zone at Torrance, and the sandy section of the Miocene, equivalent of the Del Amo zone.

Barnsdall Completes Eighth 'Frisco Well

Blanking off the two upper zones, Barnsdall Oil Co. set 7 in. casing at 7150 ft., leaving only 220 ft. open in Rancho San Francisco No. 8 which is now being completed in the Newhall-Potrero field. The Third zone being the most high powered, the company decided to eliminate all possibility of the upper horizons being "thief sands" in this well. Total depth of No. 8 is 7373 ft.

Desert Glow Pumps 40 Gravity Oil

Desert Glow Oil Co.'s Richfield outpost is reported to be pumping a few barrels of 40 gravity oil together with a lot of water from 6000 ft. Originally drilled by General Petroleum Corp., the well was taken over and deepened by Devon Shore Oil Co. before coming to its present owner.

Vesta Petroleum Seeks SE Torrance Extension

Seeking to extend Torrance deep zone production south of State Highway No. 101 just west of Figueroa St., Vesta Petroleum Co. is preparing to build a derrick for its well No. 15. It is said a fault exists between this location and O'Donnell No. 73, nearest producing well.

North Counties Tests Continue

Tassajara Oil Corp., drilling E. C. Rasmussen No. 1 in sec. 9,2s-1e of Contra Costa county was last reported in hard sand and shale at 6570 ft.

The Texas Co.'s Holmes-Eureka No. 1, sec. 22-3n-1w of Humboldt County, landed 11¾ in. casing on bottom at 720 ft. and was last reported preparing to test the cement job.

In the Priest Valley area of Monterey county, Priest Valley Petroleum Co.'s Greve No. 1 sec. 22,20s-12e is coring gray sand at 1895 ft.

Latest planned northern county test is Amerada Petroleum Corp.'s Carpenter No. 1, location for which has been made

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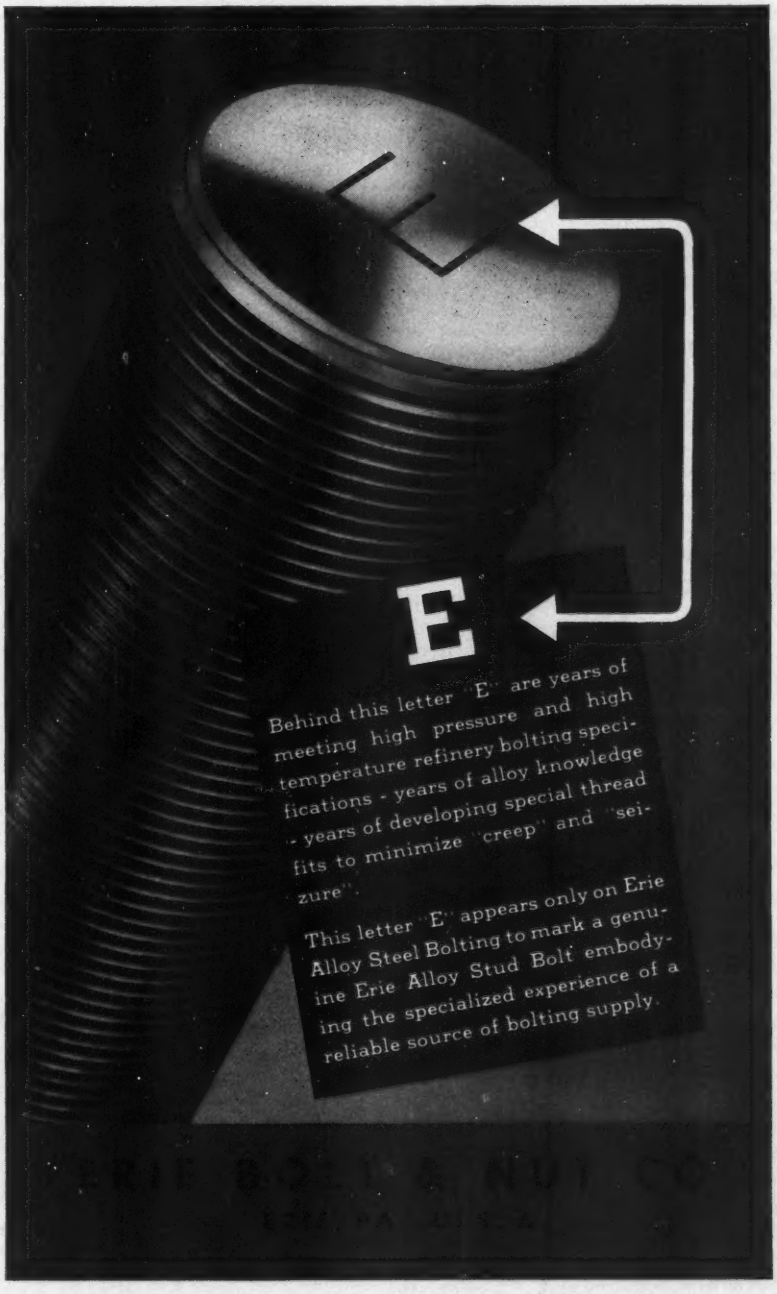
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in sec. 20,4n-3e in the Rio Vista area of Sacramento county.

Solano county's test, Richfield Oil Corp.'s Potrero Hills No. 2 in sec. 5, 4n-1w, is digging at 577 ft. in sandy clay.

Turf Club Trys For Golf Club Production

On the theory that if golf and petroleum form a happy combination, there is no good reason why a controlled drilling program should interfere with the sport of kings, Hollywood Turf Club is preparing to drill the racing plant site at Potrero.

Chosing the name Turf Oil Co., officers of the racing organization have formed a new company, financed entirely by stockholders of the parent club. Actual drilling of the wells will be contracted and it is said the city of Inglewood will require the removal of derricks after each completion. First hole probably will offset the Potrero Country Club's golf course upon which Basin Oil Co. has brought in several good wells in the past year.

Having drilled two holes from the same derrick location, Basin Oil Co. is about to complete Potrero No. 7 after cementing casing at 2960 ft. No. 6, which has been standing with 7 in. casing cemented on bottom at 3770 ft., will then be gun-perforated and swabbed in.

Shallow Zone Wells Top Long Beach News

Since the completion of Dormax Oil Co.'s 10,411 ft. deep test, shallow zone wells have stolen the Long Beach show. With production running from 100 to 200 bbls. eight wells have been redrilled and recompleted in the Alamitos zone at depths running around 3500 ft. In the cases of several in the Pepper Drive area, production has been entirely free of water. The gravity in all wells averages 24°, API.

Only active deep driller is Allied Petroleum's No. 34, located on Gundry Ave. north of Burnett St. Bottom at present is about 5250 ft.

Seal Beach Well Flows 2600 B/D

Flowing 2601 bbls. a day, Continental Oil Co. recompleted Bixby No. 25 at Seal Beach after perforating the interval 4600-4775 ft. The oil was clean and tested 27 gravity but after a week the well died and was put on the gas lift. Continental completed Bixby No. 42, a new well, flowing 300 bbls. on gas lift from 20 ft. open to 4365 ft. Cut was 50%.

Tide Water Associated Oil Co. is drilling Bryant No. 7, a new well, and is reperforating No. 11 on the same lease.

Rolling Hills Tests Liner

Rolling Hills Petroleum Co. is testing a 4¼ in. liner cemented at 5470 ft. before cleaning out to bottom for a production test. The well seeks an accumulation against the Palos Verdes fault, just above the basement. Failure to shut off water on first cement jobs caused two weeks delay.

Morton & Elder Deepen East Dominguez Project

Having lately acquired the old Stabler-Dominguez No. 2, originally drilled by Marland Oil Co. many years ago, Morton & Elder are rigging up to deepen to the 7th and 8th Callender zones, which are receiving much attention at the west end of the field.

Continuing west end development, Union Oil Co. is preparing to spud Callender No. 75 while Russell Havenstrite is building rig for Larronde No. 2.

Baroid Sales Has New Telephone Number

Baroid Sales Division of the National Lead Co. announces the change of their telephone number in the Los Angeles office and plant to MIchigan 1381.

Misuse of automotive tax funds for purposes other than road building is robbing farmers in several states of better roads, according to a resolution adopted by the National Grange.

Left to right: P. C. Thompson, representative of H. C. Smith Oil Tool Co., M. V. Kelly and L. C. Kelly of Thomas Kelly & Sons, Inc., General Contractors and Oil Operators, looking at cores taken from the McMillen Community No. 1 well at Rosecrans. The H. C. Smith T-39 Wire Line Core Drill was used in the coring of this well.

Coastal District

British-American Gets New Avenue Producer

In the Central Avenue area of the Ventura field, British-American Oil Co. brought in well No. 9 on the Bolsa Chica Hartman lease. Bottomed in oil sand at 9740 ft., only 200 ft. of formation is utilized, the 7⅝ in. water string having been set at 7738 ft. Flowing through a 40/64 in. bean, the initial rate was slightly in excess of 800 bbls. daily of 32 gravity clean oil.

Present northside outpost is California Alliance's Hartman Ranch No. 2, now below 5350 ft. and heading for the new Hisey zone opened up by the company's first well below 7350 ft.

Flowing at a 1500 bbl. initial rate, Lloyd Corp. completed well No. 3 in the northeast section of the field. Hole was bottomed at 10,283 ft., but was plugged to 10,060 ft., where the project was finished with formations open below the liner c.p. point, 9365 ft.

With a potential of nearly 1200 bbls. a day, Shell Oil Co. brought in No. 105 on its extensive Taylor property. Gravity of the yield was 31 and the water content less than 1.0%. The hole is open at intervals from 6728 ft. to 7254 ft.

Most active company is Tide Water Associated with eight strings of tools actually turning and several new projects contemplated.

Summerland Test To Resume Drilling

Oil Group, Inc. is preparing to resume drilling its Hyland No. 1, wildcat located half a mile inland from the city of Summerland. Drilled to 1315 ft. a year ago, the project has long stood idle, but is now being rigged to deepen for a thorough test of the Sespe.

Gilmore To Drill Huasna Prospect Well

Gilmore Oil Co., whose main efforts of late years have been in the marketing end of the business, is preparing to join the never ending search for new oil fields by drilling a wildcat well in the Huasna area of San Luis Obispo county.

The first well on the extensive block of acreage will be called Huasna Community No. 1 and will be located in sec. 11,32-14, not far from an old well drilled by Union Oil Co. which obtained good oil showings.

The Huasna country has been drilled many times from the early history of petroleum in California; most wells finding showings of heavy oil and several producing a little. The product is low in gravity, high in viscosity and generally accompanied by much water. Very little sand is found, the oil coming from fractured Miocene shale. Many geologists believe, however that commercially productive structures will eventually be found. The recent development of oil well heaters may go far toward opening up this region.

Two Wells Active In Shiells Canyon

Two projects are presently active in the Shiells Canyon field, The Texas Co.'s Shiells No. 138 and Savage Oil Co.'s No. 8.

The former company, which controls most of the field, is coring its newest well near the 2900 ft. level in search of a water string setting point.

Calumet No. 8, an old well being deepened by Savage, is below 3300 ft. and, being an exploratory well for that section of the field, is coring and running a formation tester at intervals.

Union Completing Santa Maria Well

Union Oil Co. is reported to be completing its O'Donnell No. 2-5 in the westerly section of the Santa Maria Valley field. Bottomed near the 5600 ft. level, several hundred feet of productive formation is open, the Arenaceous Shale being encountered above 5000 ft. The company's O'Donnell 2-4 is drilling at 3650 ft., while Russell-Lollier No. 1 is rigging up.

Fred E. Cole's Paderewski No. 3, only other driller in the field is below 3700 ft.

E. H. Moore, Inc. deepened Union Sugar No. 11 to 4655 ft. and recompleted with a settled production of 75 bbls. a day of 16 gravity oil cutting 5.0%.

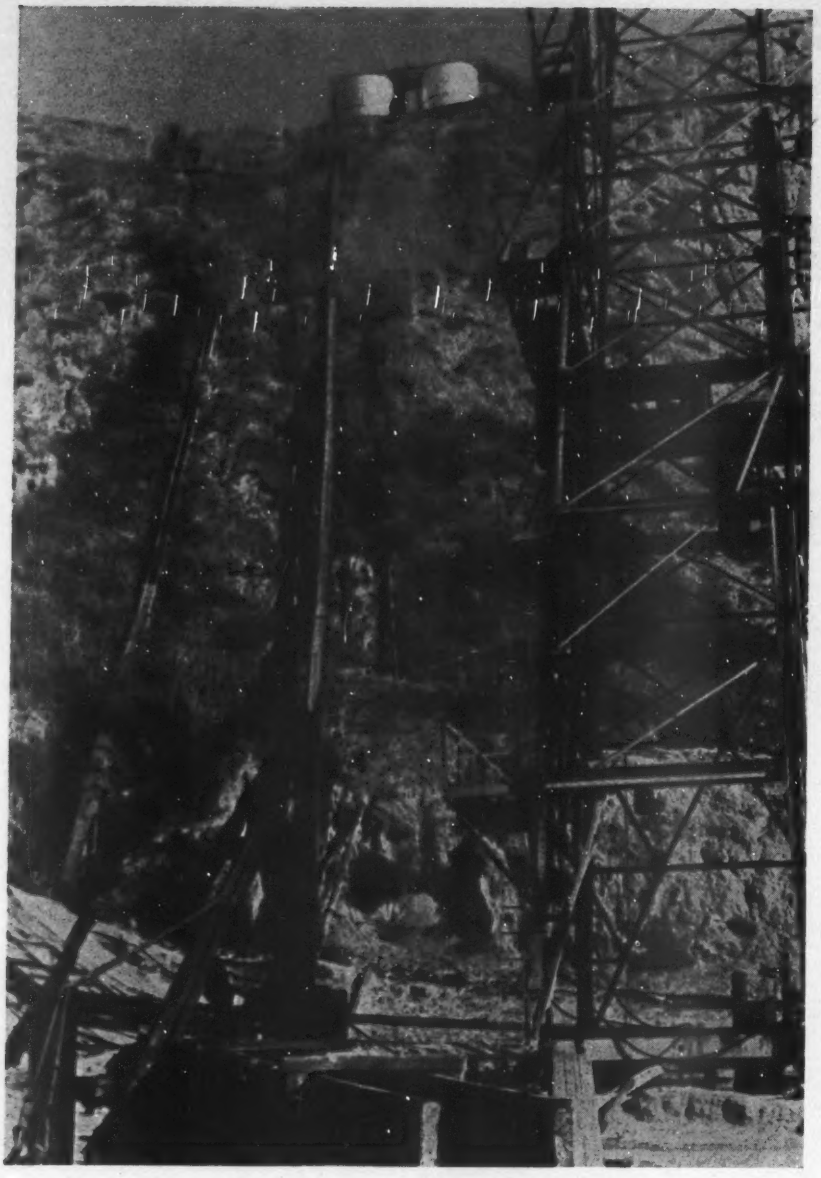
Ohio Will Test Moorpark Area

Ohio Oil Co., whose efforts for the past year have been confined to the San Joaquin Valley, is preparing to drill an exploratory well in Simi Valley near Moorpark. Known as Vail No. 1, the project will be located 350 ft. north and 1000 ft. west of the east quarter corner of sec. 10,2-19, Ventura county.

In sec. 30,3-19, Frank Shaffer and Karl

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
Santa Barbara County					
Carpinteria	Sunset Oil Co.	1	32, 4-25	3413	Idle
Cuyama	Hearte, O. K.	1	11, 9-25	2895	Cleaning out
Goleta	Gen. Pet. Corp., More	5	22, 4-28	4905	Abandoning
	Hamilton, W. C., Hollister	1	3, 4-29	290	Drilling
Lompoc	Sun-Bell Drilling Co.	1	28, 8-34	2982	Idle
Los Olivos	United Western Oil Co.	1	15, 7-30	3935	Idle
San Marcos	Shell Oil Co., Barrett	1	13, 6-30	1956	Abandoned
Summerland	Oil Group, Inc., Hyland	1	16, 4-26	1315	Rigging up
San Luis Obispo County					
Elk Horn	Calif. Pet. Prod., Irons	1	19, 10-24	2527	Drilling
	Newton, S. M., Stafford	1	18, 31-21	5275	Idle
	Newton, S. M., Well	1	3, 32-21		Grade
	Burrhus, V. E.	1	8, 32-22	60	Idle
	Burrhus, V. E.	3	27, 32-22		Grade
	Burrhus, V. E.	4	21, 32-22	1550	Drilling
Midway	Lee. H. E., Stewart	1	7, 32-22	2210	Pulling Casing
Huasna	Gilmore Oil Co., Huasna Comm.	1	11, 32-14		Location
Paso Robles	Epco. Inc.	1	27, 26-13	6157	Idle
Ventura County					
Conejo	Sulphur Springs Oil Co., Janss	1	33, 2-19		Rig
Moorpark	Shaffer, Frank, et. al.	1	30, 3-19	736	Drilling Portable
Ojai	Argo & Rynning, M & A	1	7, 4-21		Location
	Coronet Oil Co., Coronet	4	17, 4-21	1020	Drilling
Santa Susana	K. C. Oil Co., Marr	1	32, 3-17	1014	Idle
Sespe	Nevada-Fortuna Oil Co.	1	13, 4-19		Rig
	G. E. Development Co.	7	13, 4-19	125	Drilling
	Renard Oil Co.	1	6, 4-19	1100	Idle
Shiells Canyon	Galveston Oil Co.	1	5, 3-19	3140	Idle
Simi	Ohio Oil Co., Vail	1	10, 2-19		Location
Sount Mountain	Albatross Oil Co., Schiefferle	1	17, 3-20		Rig
	Rilling, Harry	1	13, 3-21	3127	Producing



New mud is piped up and old mud sluiced down in Ventura landslide areas.

Lehndorfer are drilling below 735 ft. with light equipment, while G. M. Levesque's Robertson No. 1 in sec. 17,2-18 is standing idle at 2200 ft.

Hall Cleans Out Old Union Well

Henry Lynn Hall, who gives as his address the Subway Terminal Bldg., Los Angeles, is preparing to clean out an old Union Oil Co. well in Tar Creek, Ventura County. Called Hogshead No. 4, the project was finished as a small pumper many years ago at 1275 ft. Location is near the center of sec. 32,5-19, in a group of long abandoned strippers.

Hamilton Seeks Goleta Production

Seeking the shallow, high gravity production found by E. J. Miley in 1927, W. C. Hamilton of Long Beach is drilling Hollister No. 1 at Goleta. Using a small portable rotary outfit set up about 75 ft. southwest of the old abandoned Santa Barbara Oil Co. Hollister No. 3B, Mr. Hamilton was last reported drilling below 400 ft.

Shell Drops San Marcos Well

The combined circumstances of a junked hole and no encouragement conspired to induce Shell Oil Co. to abandon its San Marcos area test, Barrett No. 1, at 1956 ft. No information except depth was ever officially given out by the company, but it is understood that as no showings were encountered the hole was abandoned when a string of drill pipe stuck on bottom.

G. P. Quits More No. 5

General Petroleum Corp. recently announced the abandonment of its fifth well on the large More lease on the coast west of Santa Barbara. The hole was bottomed at 4905 ft. after topping the Temblor at 2700 ft., the Vaqueros at 4300 ft. and the Sespe at 4645 ft. No showings were found; even the Vaqueros, which in other portions of the property yields large gassers, was devoid of any kick.

More Basin Activity

Thompson Deepens Costa Mesa Well

Milton N. Thompson is deepening his Costa Mesa wildcat well at 2900 ft. according to late reports. Some tar sand was noted at 1750 ft., but no tests were made.

Casa Grande Oil Resumes Drilling

Resuming operations after several week's idleness, Casa Grande Oil Co. is deepening its Sunland wildcat, Lopez-Lundy No. 1 at 2275 ft. Unverified reports indicate the formation is largely shale streaked with poor oil sand. A production test at 2120 ft. recovered all water.

Newhall News

British-American Oil Producing Co. is reported to have taken over the Tamas Oil Co. well, now drilling at 3900 ft. in sec. 14,3-16.

Consolidated Petroleum Co.'s Needham No. 4 is in hard shale below 4225 ft.

Canyon Oil Co. has derrick up for Sanborn No. 1 on the Pico Anticline in sec. 6,3-16.

* * *

First new well for Brea Canyon in months is Fullerton Oil Co.'s Brea Canyon No. 25, now preparing to drill.

Bren Oil Co. is making a formation test of Del Amo zone showings in its Torrance outpost west of Main St. and south of Sepulveda Blvd.

The 1939 Yuletide brought something different in the way of oilfield atmosphere to the Southwest Exploration Co.'s lease at Huntington Beach. Above is a veritable fairyland created on the company's line of derricks directionally drilled into State Tidelands offshore. In the left foreground is a steel derrick smothered in 1500 individual trees to create the impression of a gigantic cedar. Topped by a single blazing white star, the beacon was visible for miles up and down the coast. Pumping units, readily recognizable in the picture, were topped by Reindeer, Santa Claus and Sleigh to create a bobbing and highly animated scene.

Lands lying between the scene and the Highway were snow covered slopes, profusely dotted with small trees. Thousands of Southern Californians journeyed from afar to witness this latest and magnificent Christmas spectacle.

San Francisco Fair 1940 Dates Announced

With plans for the re-opening of the Golden Gate International Exposition on Treasure Island in San Francisco Bay completed, actual dates for the San Francisco Fair in '40 have been set. The opening date is May 25, 1940 with the closing date fixed at Sept. 29, 1940.

Already wheels have been set in motion for the tremendous task of readying the Exposition for the increased travel to the Pacific Coast which is anticipated.

Harold R. Deal, advertising and sales promotion manager of Tide Water Associated Oil Co., has been appointed to the post of chairman of the Petroleum sub-committee of the Promotion Committee in charge of advance preparation for the re-opening of the Exposition. A past president of the Pacific Advertising Clubs Association, past president of the San Francisco Advertising Club and a moving spirit of the Winter Sports and Travel Stimulation committee of the California State Chamber of Commerce, Mr. Deal's selection as head of the Petroleum division of the Promotion Committee is an ideal choice.

"I look for 1940 to set an all-time high for motor travel to the Pacific Coast", Mr. Deal stated. "With this in mind, the members of the Petroleum Division of the Promotion Committee are prepared to bend every effort toward making the 1940 Exposition even more successful in all respects than the Golden Gate International Exposition of 1939 proved to be in the minds of millions of visitors from all parts of the world.

"We are particularly anxious to have Exposition visitors see all parts of the West during their trip into this territory and are planning now to present our various attractions most alluringly", Mr. Deal concluded.

MERRY CHRISTMAS TO ALL
AND TO ALL A GOOD NIGHT
THE MOTION OF THE REINDEER IS CREATED BY OIL WELLS PUMPING OIL FROM LEASE № 392. OWNED BY THE STATE OF CALIFORNIA
THIS OIL IS BEING PRODUCED BY MEANS OF WELLS SLANTED UNDER THE OCEAN TIDE LANDS BY THE SOUTHWEST EXPLORATION CO. FROM WHOM THE STATE RECEIVES ONE OF THE HIGHEST ROYALTIES EVER PAID
THIS LEASE IS A SOURCE OF SUBSTANTIAL INCOME TO THE PEOPLE OF THE STATE OF CALIFORNIA

Above signboards flanked the Christmas exhibit at Huntington Beach, and clearly showed to whom the thousands of children and adults who looked and admired, are inedbted.

Shell Oil Promotes Heggie, Davis and Wyatt

Election of David Heggie, vice president, to the board of directors of Shell Oil Co., Inc., was announced recently.

Dr. E. F. Davis

Harold T. Wyatt

Mr. Heggie started in the oil business in 1909 as assistant office manager of California Oilfields, Ltd., at Coalinga. He became office manager in 1909 and a few years later went to Martinez refinery as office manager. In 1918 he was appointed assistant treasurer in the San Francisco office and in 1933 was named vice president.

Taking effect Jan. 1, the appointment also has been announced of Dr. E. F. Davis to succeed the late J. U. Stair as vice-president in general charge of the company's production and exploration on the Pacific Coast. Dr. Davis joined Shell in 1919, coming to Shell from the faculty of the University of California at Berkeley, of which he is a graduate, and for the next two years he directed an extensive program of exploration in the Rocky Mountains. Early in 1922 Dr. Davis came to Los Angeles to take charge of the company's exploration work throughout the Pacific Coast territory.

Second in charge to Dr. Davis will be H. T. Wyatt, production manager.

Death Takes Almond A. Perkins

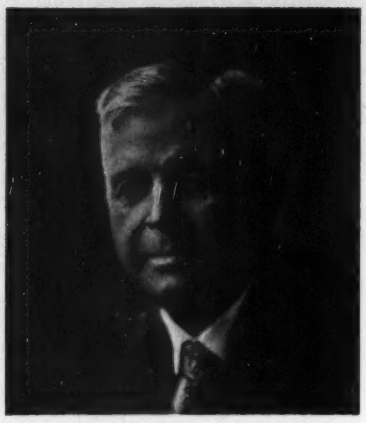
Almond A. Perkins, who invented and perfected the Perkins system for cementing oil wells, died at his home in Los Angeles, Calif., on Jan. 1, 1940. He was born near Rochester, N. Y., on March 3, 1852 and was educated in the public schools of that city. His first experience in the oil business was at Petroleum Center, Penn., in 1872, where his father owned some production. He followed through the various discovery fields in Western Pennsylvania, until 1885, when he was sent to Peru by Wm. R. Grace and Co. of New York, where he drilled some of the earliest producing wells in South America. Upon his return he began contract drilling in the Bradford area under a partnership known as Oliver & Perkins. Later he drilled artesian wells at New Haven, Conn. for the Winchester Arms Co. He was at the first Spindletop boom, and came to California in 1901. His first employment in California was with the Olinda Crude Oil Co. at Fullerton. Later he did pipe line construction for the Associated Oil Co. He spent considerable time in attempting to shut off water from oil sands, which before 1910 was accomplished only in a small percentage of the wells drilled.

Mr. Perkins devised the two plug system and applied for a patent jointly with Edward Double, then president of Union Tool Co. The patent was issued in 1911, and subsequent litigation which took place in various parts of the country, established it as a basic patent.

He founded Perkins Oil Well Cementing Co. in 1910, and was its president until 1928, when he retired from business.

The method which he introduced is still today recognized in oilfields everywhere as one of the major benefits to the oil industry.

Mr. Perkins is survived by two daughters, Mrs. L. J. Whitney and Mrs. J. A. Byrnes, and two grandchildren, all residing in Los Angeles, and a brother in Hudson, N. H.



Almond A. Perkins

His wife died in 1937, and his son Clarence, long identified with him in the cementing business died in 1938.

R. W. Hanna Resigns As Standard Oil V. P.

It is with great regret that the board of directors of the Standard Oil Co. of California announces the resignation of R. W. Hanna as a director and vice president of this company, effective Jan. 1, 1940.

His resignation is due to ill health and it is his feeling that ultimate recovery can only be accomplished by his release from the responsibilities of his directorship with this company.

It is gratifying that Mr. Hanna has offered his services at any and all times in the future as an advisor, particularly on oil refining and research work in which he has achieved national recognition.

Mr. Hanna joined the company in 1911, beginning his career at the El Segundo Refinery, construction on which was started that year. He became a member of the board of directors in 1924, was elected vice president, Jan. 1, 1931.

The vacancy created by the resignation of Mr. Hanna has been filled by the election to the board of J. L. Hanna, until now general manager of the manufacturing department.

J. L. Hanna began his career with the company on Jan. 1, 1909. His first position was that of a still fireman. He has spent his whole business life in the manufacturing department advancing up through the organization until he was made general manager, manufacturing department, in 1933.

Gasoline Sales Reach New High

Income from California's gasoline tax promised to reach an all-time high in 1939, it was indicated in a report prepared by the State Board of Equalization.

The tax for November was assessed against the distribution of 154,277,430 gallons of gasoline for a net income to the State of $4,628,322.90, the Board reported. This represented a gain of 12.37 per cent over the income for the same month of the previous year. The November, 1938, tax amounted to $4,-118,812.05, or $509,510.85 less than the tax for the same month of the current year.

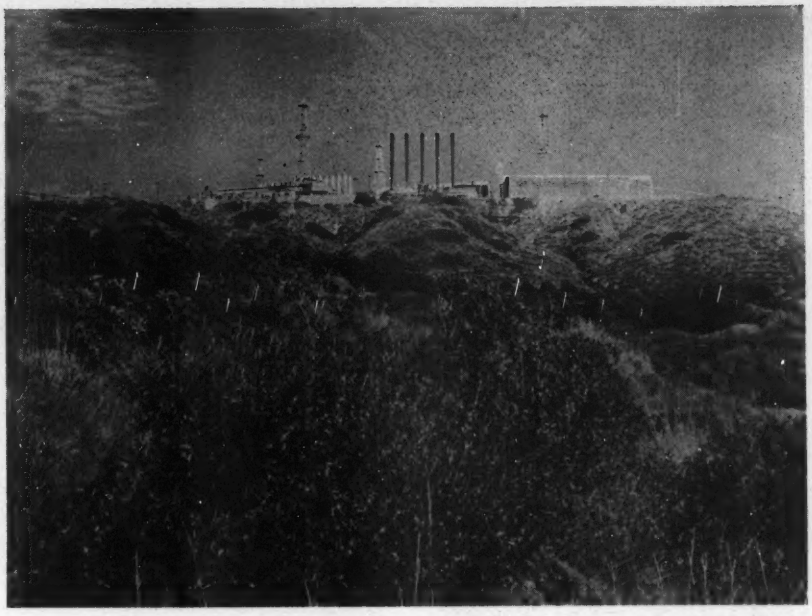
As a result of this substantial increase it appeared assured that the total for the calendar year would exceed that of 1938 when an income of $51,601,430.04 established a record for this source of revenue.

Records of the Board show that for the first eleven months of the current year the gasoline tax had netted the State a total of $50,171,804.89 as compared with $47,224,939.80 for the same period of 1938.

The November total also was slightly in excess of the tax assessed against October sales of gasoline. This levy amounted to $4,620,918.51.

Oil companies reporting sales of more than 300,000 gallons in November were listed by the Board with the explanation that resale of gasoline previously taxed and exempt sales to the Federal government or in interstate or foreign commerce accounted for differences between total sales and taxable sales. These companies were as follows:

NAME	Gallons Actually Sold	Net Taxable Gallonage
Aromalene, Inc.	430,871	430,871
Atlas Refining Co.	340,634	340,634
Bankline Oil Co.	489,145	None
Belridge Oil Co.	1,987,328	418,946
Brown, Henry, dba Operators Oil & Ref.	717,250	717,250
California Oil & Refining Co.	379,425	379,425
Caminol Company, Ltd., The	4,014,899	3,462,388
Century Oil Co.	896,551	895,983
Chanslor-Canfield Midway Oil Co.	575,896	None
Coline Gasoline Corp.	942,967	1,401
Cowan Oil and Refining Co.	1,106,674	None
Del Rey Oil & Gas Co.	538,258	None
Eagle Oil & Refining Co., Inc.	3,198,509	2,497,216
East West Refining Co.	967,593	967,593
El Camino Refining Co.	771,727	771,727
Elm Oil Co.	418,182	418,182
El Tejon Oil & Refining Corp.	1,097,375	1,076,378
Envoy Petroleum Co.	808,054	808,054
Estado Petroleum Corp.	2,690,429	2,689,843
Exeter Refining Co.	860,740	855,483
F. R. Long, Inc.	445,297	None
General Petroleum Corp. of Calif.	45,297,869	7,981,895
Gilmore-Dabney, Inc.	349,112	None
Gilmore Oil Co.	5,879,114	117,742
Hancock Oil Co. of Calif.	5,859,119	None
Harbor Refining Co.	648,117	648,117
Harbor Terminal Oil Co.	321,107	253,027
Honolulu Oil Corp.	719,328	7,882
Kern Oil Co., Ltd.	1,084,666	1,041,784
Krieger Oil Co.	638,038	629,995
Lomita Gasoline Co.	1,477,305	None
Los Nietos Producing & Refining	2,174,164	925,913
Macmillan Petroleum Corp.	2,362,413	2,318,097
Mangold & Tweedy Refining Co.	305,294	305,183
Manufacturers Natural Gasoline	446,407	5,781
McCallen Refining Co.	1,103,687	1,003,777
Meek, Herbert A., dba Henry H. Cross	303,540	None
Mercury Petroleum Corp.	469,539	469,539
Moffett, J. O., (San Fernando Ref. Co.)	371,567	371,560
Mohawk Petroleum Corp.	4,692,823	2,623,464
Natural Gasoline Co.	405,754	268
Norwalk Company, The	1,437,448	1,339,450
O. C. Field Gasoline Corp.	1,915,415	163,628
O. F. Collinge, Inc.	785,359	None
Olympic Refining Co.	1,219,140	1,178,089
Pacific States Oil Co.	1,799,912	1,798,332
Pacific Western Oil Corp.	441,618	921
Pan Pacific Oil Co.	302,874	302,874
Petrol Corp., The	1,878,611	875,128
Petrolane, Ltd.	504,275	273,585
Richfield Oil Corp.	22,341.703	16,118,436
Rio Grande Oil, Inc.	3,086,529	None
Roath, Marshall, dba., Cascade Oil & Ref.	1,106,015	1,100,115
Rothschild Oil Co.	851,577	851,577
R. R. Bush Oil Co.	1,050,055	1,045,948
Seaboard Oil Co. of Delaware	1,108,550	None
Seaside Oil Co.	3,427,330	1,189,179
Shell Oil Co., Inc.	22,718,555	17,395,832
Signal Oil & Gas Co.	1,401,531	None
Signal Oil Co.	5,438,117	None
Socal Oil & Refining Co.	909,343	787,752
Standard Oil Co. of Calif.	39,688,574	21,983,591
Sunset Oil Co.	3,041,440	None
Superior Oil Co.	2,746,353	383,278
Texas Company, The	8,355,452	7,214,476
Tide Water Associated Oil Co.	30,099,173	15,429,130
Tiernan Refining Co.	458,763	458,763
Union Oil Co. of California	23,773,189	18,772,823
Triangle Oil & Refining Co.	619,089	619,089
West Coast Refining Co.	398,052	None
Western States Gasoline Corp.	2,783,888	102,703
Wilshire Oil Co., Inc.	8,186,127	8,031,673



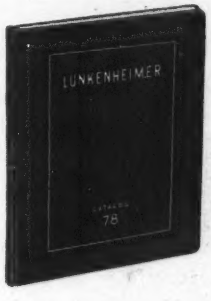
Standard's gasoline plant in Ventura Avenue

New Lunkenheimer Catalogue No. 78

Send for the new Lunkenheimer Catalogue 78—136 pages, flexible cover.

Catalogue No. 78 includes a comprehensive representation of Bronze, Iron and Steel Valves, Boiler Mountings, Lubricating Devices, Air Devices and numerous other specialties; also current price list prices.

In addition to the technical and dimensional data relating directly to the products, there is a section on the



thermodynamic properties of steam, and a table of shipping weights covering each figure listed in the catalogue.

Standard Gasoline Plant Construction in Section 19

The Standard Oil Co. of California has started construction on a gasoline extraction plant on sec. 19,19s,16e a few miles from Coalinga, which will have a capacity of 20,000,000 cubic feet daily. The plant will cost approximately $275,-000. Grading and the accumulation of materials has been started.

The new plant is required because of the increase of gas production at northeast Coalinga, and the prospects of increased production in that area. The gas will be transported from the Coalinga Nose-Amerada area by means of a booster plant and pipe line. The project will include a system of collecting lines to the extent necessary to take care of the gas in the field.

Companies Profit Under Colonel W. F. Rockwell

Colonel W. F. Rockwell

With the announcement of an extra dividend by the Standard Steel Spring Co., approximately $5,000,000 has been paid during 1939 to the stockholders of three companies operated under the direction of Col. W. F. Rockwell, president of Pittsburgh Equitable Meter Co., and chairman of the Board of the spring company. Employment in plants scattered throughout the country has reached a peak of close to 8,000 men. Some of these plants have backlogs which more than cover six months' operations.

According to Colonel Rockwell, these profitable results can be ascribed largely to a consistent program of scientific research and development. His faith in research is predicated upon his own successful efforts in engineering and designing. Educated in Boston at the Massachusetts Institute of Technology, Colonel Rockwell has been actively engaged in consulting and development engineering since 1914. Today a great majority of heavy duty motor vehicles and buses utilize equipment covered by his original patent. He has served the War Department in his contributions to the development of special mobile equipment. It is, therefore, only natural that with such a background of productive research and inventive ability, the companies under his supervision are embarked on the most ambitious programs of scientific development that they have ever undertaken.

In addition to company operated laboratories, in which over one hundred engineers are constantly employed, Fellowships are maintained at the world renowned Mellon Institute where particularly involved problems requiring continuous research are handled.

Colonel Rockwell has found that the results from pure research on a specific problem may lead to additional applications in other fields and have been known to open entire new industries.

One of the outstanding developments in the past year is Corronite which is a metallic pore-free coating, offering exceptional advantages in corrosion resistance. Extraordinary thin coatings produced by the Corronizing process have been found to give extremely effective protection against corrosion of the most severe type. The bond of the Corronite to the steel is so firm and the ductility of the coating so high that bending or forming does not impair the protective value of the coating. Already, the results of applications and tests have aroused so much interest that Corronizing process licenses have been granted to Youngstown Sheet & Tube, Carnegie-Illinois Steel Corp., Republic Steel Corp., and other large steel companies. Licensees will make investments involving millions for new equipment to utilize the Corronite process.

Another development is a series of plastic metallic lubricants for use at very high temperatures and pressures. These lubricants have many applications in industry and promise results in the creation of an entirely new industry.

The National Safety Council awarded this handsome trophy to the Natural Gasoline Department of Shell Oil Co., Inc., for achieving a total of 239,440 man-hours worked without a single reportable accident. Fred Doane, assistant operator in the Long Beach absorption plant, was chosen to receive the trophy from pretty Miss Vanita Mitchell, stenographer in the Long Beach production office.

Gardena Syndicate Accepts Bid on Dominguez Property

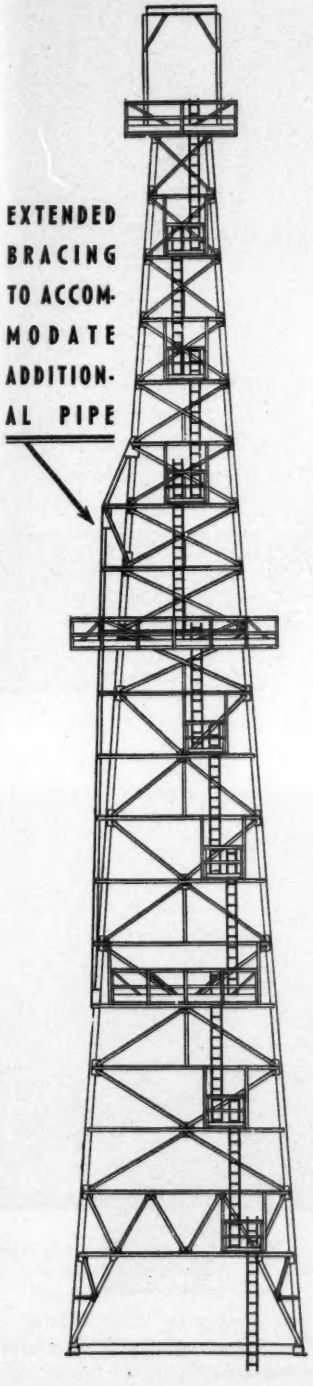
After considering numerous bids on the extremely valuable acreage owned in fee immediately west of Avalon Boulevard and north of the recently completed R. E. Havenstrite Larrondi No. 1 in the Dominguez field, Gardena Syndicate has accepted the joint bid of the Union Oil Co. and the Dominguez Oil Fields Co.

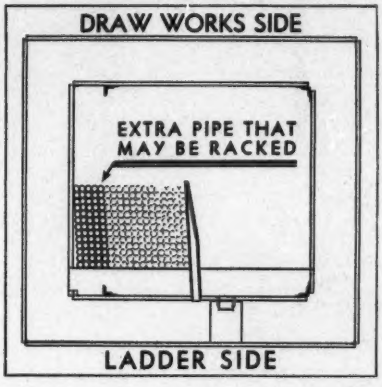
Situated on the main trend of the Callendar zone extension to the field, bidding for the choice acreage was spirited.

Derrick of Improved Design Permits Racking More Pipe

In the latest designed Type "R" Emsco steel derrick, optional side elevation of which is shown here, the manufacturer claims a further decided improvement designed to provide greater pipe racking capacity without resorting to higher derricks.

This increased racking area is made possible in the Type "R" by means of an optional Special Set Back Extension outside the derrick legs, as illustrated in detail by Figure 1; and is accomplished without sacrificing strength, rigidity, or the high factor of safety essential in modern deep drilling procedure. In all other respects the derrick is standard, with standard base and crown; permitting the use of standard construction procedure, standard sub-structures, and standard equipment throughout.





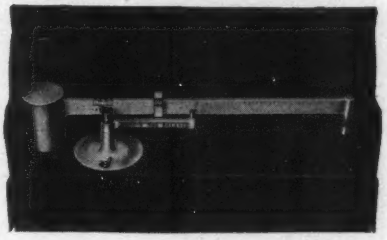
The patented extension permits racking from 33-1/3% to 50% more pipe than is possible in a conventional derrick, as shown by Figure 2. It can be provided for derricks of any size. There is ample working space at all points inside the derrick when larger quantities of pipe are racked, so that the new design embodies all the advantages of speed and economy provided by standard derricks.

According to the manufacturer, the Type "R" is the result of continued deeper drilling practices, with the consequent use of longer strings, larger and heavier equipment throughout the derrick; all of which has reduced the available space in standard rigs very materially. The company has been perfecting and field-proving the special set back extension for several years, and it is now available for the Type "R" Derrick as optional in all sizes and capacities. Complete details may be obtained by communicating with Emsco Derrick & Equipment Company at Los Angeles, Calif., Houston or Dallas, Texas.

Carrying Case For Baroid Mud Balance

A two-purpose metal case has been designed for carrying the Baroid Mud Balance and also to act as a protection against wind and rain when determining the density of drilling fluids with the Balance. An especially designed catch holds the cover straight up as indicated in the illustration and prevents winds from distributing the natural oscillation of the sensitive Balance during a test.

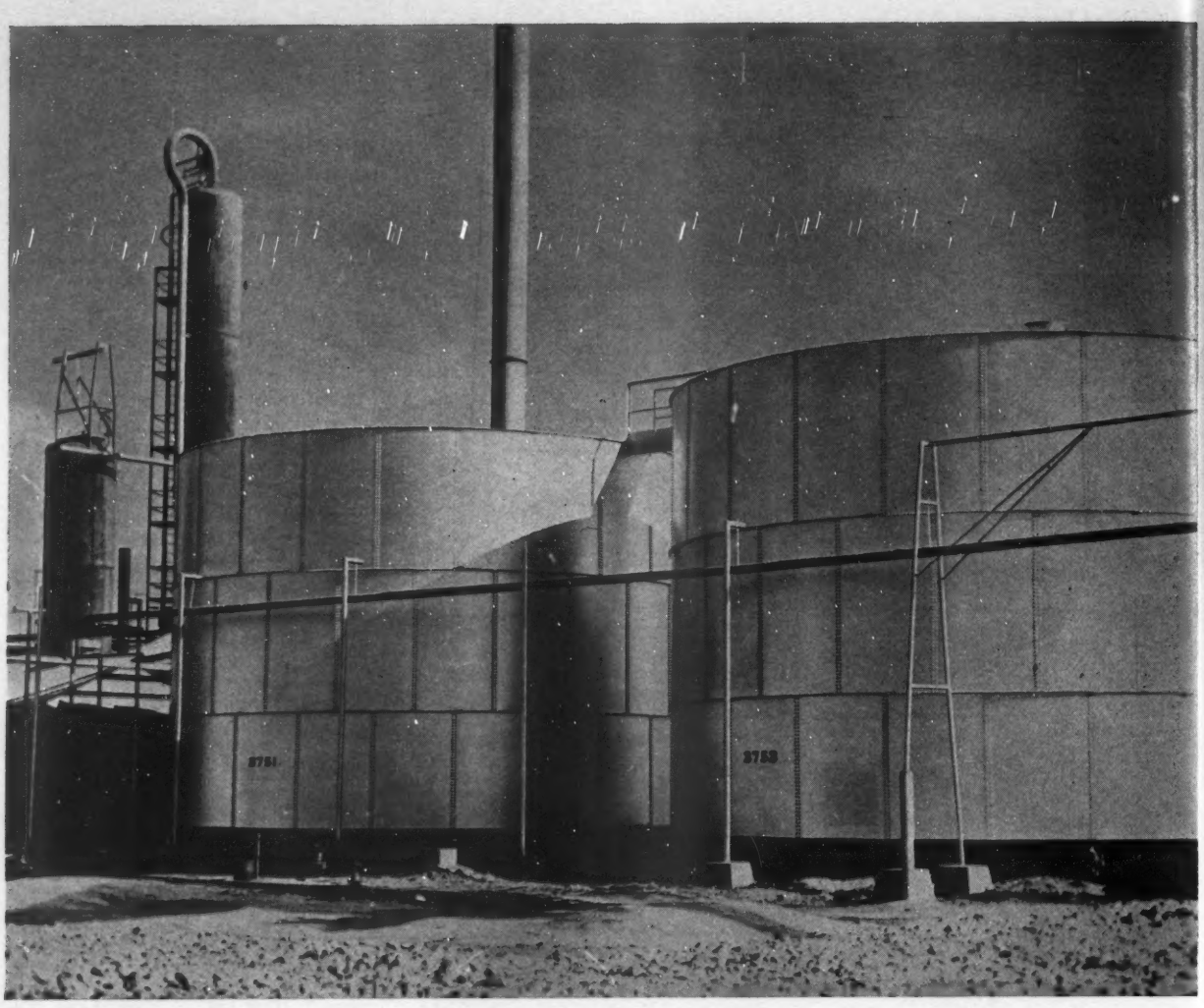
When not in use the upper section of the Balance is removed from the base and clamped securely into place. The base is attached to the case in working position by thumb screws. Inasmuch as the Baroid Mud Balance is alumilited, the case has been finished in dark green to provide a suitable neutral background and thereby make it easier to read the calibrations on the Balance arm.



These cases are available with or without the Mud Balance. Prices can be obtained from the Baroid Sales Department offices at Los Angeles, Houston, or Tulsa.

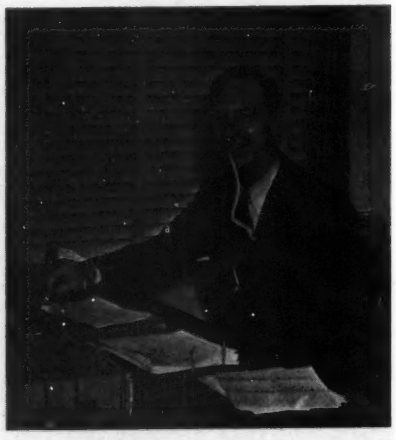
Following penalization of several states for misuse of road funds by withdrawal of a part of their share of federal highway aid funds, there has been a decline in such misuse of highway user taxes.

Baker Oil Tools, Inc., has announced the removal of their general offices to the spacious building at 6000 South Boyle Avenue, Los Angeles, shown above. Their mail address becomes P. O. Box 127, Vernon Station, Los Angeles, Calif.



Kerosene distillate and gas oil are supplied to these tanks by truck at Pathfinder's new cracking plant. The raw charge is converted into high octane gasoline.

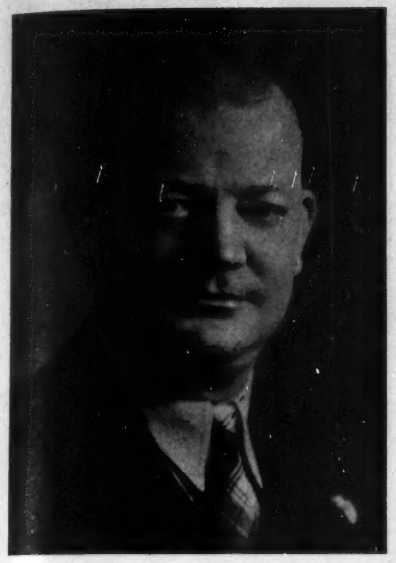
One of the new motorized technical units of General Petroleum, in front of Vernon warehouse of the company. It makes its own weather, and its own electricity.



W. A. L. Goldsmith, new office manager of Eastman Oil Well Survey, is on old timer in the oil business.

Trailers and station wagons especially equipped to treat injuries and ailments cruise from camp to camp in the wake of California's migratory farm workers.

You are reading the Pacific Coast oil men's home paper.



Harold R. Deal, above, advertising manager of Tide Water Associated, is chairman of the Petroleum Sub-committee for the 1940 Golden Gate International Exposition.

Bowen Announces Improved Safety Joint

A recent addition to the line of Bowen Fishing Tools and Specialties announced by S. R. Bowen Company, Santa Fe

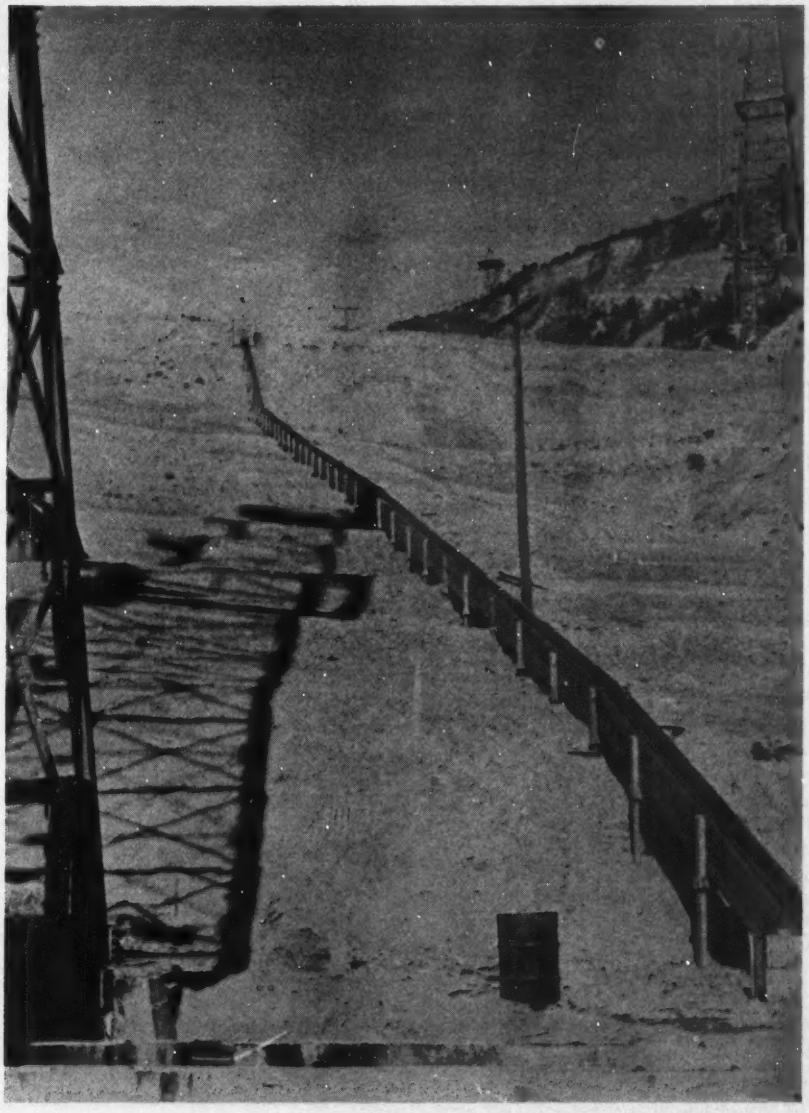
Springs, California, is a new and improved Safety Joint for use in the drilling or fishing string. This joint has a number of special features which contribute to complete safety and positive operation regardless of drilling or fishing conditions.

Simple construction and fool-proof operation are important features of the joint. They insure the user that the string can be disconnected quickly at the joint, and that he can re-engage it at will. The tool has only two steel parts —a pin and a box section—equipped with high pressure packer rubbers which seal off fluid inside and outside the string under any pressure. Outside diameters and fluid passages on all joints are the same as tool joints of corresponding sizes, thus in no way interfering with running wire line instruments, etc., through the drill pipe.

Another important feature of the Bowen Safety Joint is that nothing but definite mechanical actions, controlled by the operator, will cause it to come apart in the string. In fact, the joint is so constructed that rough drilling or excessive vibration actually tend to make the tool up tighter. Bit or drill collar inertia while rotating out of the hole will not affect the make-up of the joint. The two halves are in constant tight engagement, permitting no wear.

The Bowen Safety Joint is made of selected alloy steel, properly heat-treated to withstand greater tensile or torsional strain than the string with which it is used. The tool requires only periodic inspection.

Complete information on the Bowen Safety Joint can be obtained by writing to S. R. Bowen Company, Santa Fe Springs, California.



Ventura Avenue has a network of wooden and concrete sluices, wood for mud to rehabilitators, concrete for storm waters which are a landslide threat.

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MAPS

Large maps of Los Angeles Basin oil fields and map showing all California oil fields. Price $15.00 each on paper and $20 each on cloth. Individual state oil and gas maps of Mid-Continent and Rocky Mountain regions. Maps show geological cross sections at base. These maps indicate wells drilling, wells producing and abandoned, with depths.
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Department of the Interior, United States Land Office, Sacramento, California. Notice is hereby given that leases of the oil and gas deposits in the following described lands are offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in circular 1386, at a sale to be held in the office of the Registrar of the district land office at Sacramento, California at 10:00 o'clock A.M. on February 1, 1940: Coalinga East Side oil and gas field, Unit No. 1, NW¼SE¼, except W½ SW¼ NW¼ SE¼, Section 2, T. 19 S., R. 15 E., M.D.M., 35 acres, and Unit No. 2, E½ SE¼, N½. NW¼ SE¼ Sec. 20, T. 19 S., R. 15 E., M.D.M., 100 acres; Coalinga West Side oil and gas field, E½ SE¼ Sec. 2, T. 21 S., 14 E., M.D.M., 80 acres. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid, and file a showing of qualifications to receive the lease required by section 7 of General Land Office circular 1386. The remaining four-fifths, together with the annual rental in advance at the rate of $1.00 per acre, must be paid and a $5000 corporate surety bond must be furnished prior to the issuance of the leases. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.
1 /20b

FOR RENT

Arc Welder, 300 amp. Hobart Gas Driven, Trailer Mounted. Phone Whittier 43182 or Write Box 716, Santa Fe Springs, Calif. 1-5d

Oil Men's Calendar

C.N.G.A. Meeting First Thurs. Each Month.

1940—January

15-19—Society of Automotive Engineers, Annual Meeting and Engineering Display, Book-Cadillac Hotel, Detroit, Mich.

February

12-15—American Institute of Mining & Metallurgical Engineers, New York.

April

8-12—American Chemical Society, Cincinnati, Ohio.
10-12—American Association of Petroleum Geologists, Chicago, Ill.
11-12—American Petroleum Institute, Eastern District, Division of Production, Columbus, Ohio.
18-19—National Petroleum Assn., 37th Semi-Annual Meeting, Cleveland Hotel, Cleveland, Ohio.

May

1-3—Petroleum Industry Electrical Assn., Dallas, Texas.
15-17—Natural Gasoline Association of America, Hotel Tulsa, Tulsa, Okla.
18-25—Int. Pet. Exposition, Tulsa.

By treating unpollinated watermelon plants with naphthalene acetic acid, agriculturists have grown seedless melons without noticeably changing the texture or flavor.

California Crude Oil Production

Two Weeks Ended December 30, 1939

	December Daily Quota	Average Daily Production	Excess
San Joaquin Valley			
Belridge—North	12,674	11,654	*1,020
Belridge—South	2,088	1,241	*847
Buena Vista	16,660	16,450	*210
Canal	5,929	5,842	*87
Coalinga-East (Eocene)	10,200	10,052	*148
Coalinga—East-West	15,606	10,776	*4,820
Cole's Levee	2,855	2,947	92
Edison	2,232	2,195	*37
Elk Hills	7,624	12,272	4,648
Fruitvale	6,172	5,003	*1,169
Greeley	3,158	2,810	*348
Kern Front	7,296	6,760	*536
Kern River	6,760	4,041	*2,719
Kettleman No. Dome	34,150	52,911	18,761
Lost Hills	3,991	3,377	*614
McKittrick	3,708	3,426	*282
Midway	37,342	35,745	*1,597
Mount Poso	10,320	9,852	*468
Mountain View	9,294	9,919	625
Rio Bravo	7,548	7,579	31
Round Mt. and Coffee Canyon	7,684	7,868	184
Ten Section	8,461	7,936	*525
Wasco	1,229	1,056	*173
Other Fields	3,194	20923	*271
TOTAL	226,175	234,635	8,460
Coastal Counties			
Elwood	3,769	3,906	137
Rincon	2,661	3,952	1,291
Santa Maria	6,305	3,347	*2,958
Gato Ridge	2,528	119	*2,409
Santa Maria Valley	18,975	81906	*10,069
Santa Paula-Newhall	5,801	6,003	202
Ventura Avenue	31,015	37,200	6,185
Other Fields	5,343	5,542	199
TOTAL	76,397	68,975	*7,422
Los Angeles Basin			
Alamitos-Seal Beach	7,008	6,955	*53
Brea-Olinda	8,112	5,526	*2,586
Coyote—East	3,203	2,920	*283
Coyote—West	9,937	6,806	*3,131
Domingues	16,404	19,184	2,780
El Segundo	2,839	2,774	*65
Huntington Beach—New and Old	23,379	28,357	4,978
Inglewood	13,054	12,127	*927
Long Beach	40,331	43,481	3,150
Montebello	5,931	5,612	*319
Montebello-West End	23,402	21,239	*2,163
Playa del Rey	4,139	4,286	147
Richfield	7,270	7,827	557
Rosecrans-Athens	8,406	10.056	1,650
Santa Fe Springs	24,449	25,863	1,414
Torrance	5,414	5,150	*264
Torrance "34" and "D & B"	7,524	8,325	801
Wilmington	80,929	85,756	4,827
Other Fields	3,747	4,391	644
TOTAL	295,478	306,635	11,157
STATE TOTAL	598,050	610,245	12,195

*—Shortage.